# BUTANE-PROPANE News

25¢

## One Woman's War

AYBE this soybean meat loaf and these oatmeal cakes won't the war. I don't pretend to be ng a big war job, but I'm doing best I can . . . saving foods, ng meat-stretchers . . . and try- to give my family appetizing, anced meals at the same time.

anks to my Grand Range, I can ke the most of ration points— id waste . . . and save precious Grand's oven burner is a won- ful help, baking everything so fectly and evenly. And what's re, it's guaranteed for a lifetime. , I can count on my Grand for endable duty for the duration and then . . . it will be another Grand for me!

WHEN PEACE COMES ...IT WILL BE GRAND

**Grand Gas Ranges**

DIVISION OF THE CLEVELAND COOPERATIVE STOVE COMPANY
CLEVELAND, OHIO

# *He gets his second breath from a deep-drawn cylinder*

***The oxygen cylinder shown below is another example of the way the Hackney deep-drawing process is conserving materials, man-hours and equipment—and is producing improved products.***

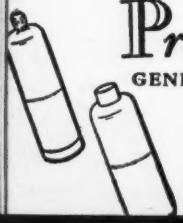
High above the clouds, deep-drawn cylinders containing oxygen aid pilots to breathe easily. To meet necessarily stringent requirements, cylinders must be light in weight and have high tensile strength.

### For Now It's War—

And products like the one described above keep rolling out of Pressed Steel Tank Company's factory. Today, all of Hackney's facilities are pledged to the making of products for Victory. However, we continue to learn new things every day—uncover new knowledge—and all this experience and research will be put to work for you . . .

### When Victory Comes

Then we'll be able to turn our energies toward the making of instruments of peace. Hackney will again be the source for L-P Gas Cylinders which are durable in service—light in weight—long lasting—low in maintenance cost . . . preferred throughout the industry.



## *Pressed Steel Tank Company*

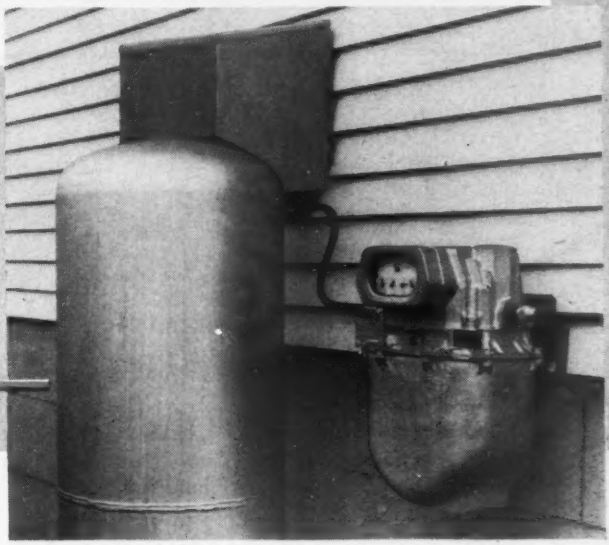
GENERAL OFFICES AND FACTORY · 1487 SOUTH 66th STREET

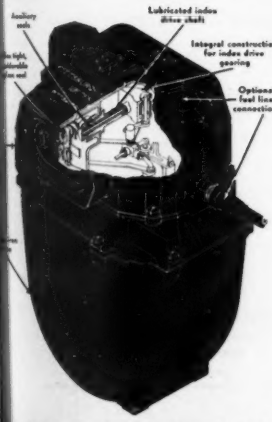
*Milwaukee, Wisconsin*

**CONTAINERS FOR GASES, LIQUIDS AND SOLIDS**

# Sell LPG by METER MEASURE

## Through EMCO Special BUTANE-PROPANE VAPOR METERS




Auxiliary axis
Lubricated index drive shaft
Integral construction for index drive gearing
Optional fuel line connections

Indexes reading in therms, decitherms, gallons, pounds or equivalent cubic feet are available.

FOR generations the Manufactured and Natural Gas Industry, as well as Water Works Industry, have measured the consumption of their products by meter. Their customers accept meter measurement as the fair and equitable method by which to buy these commodities. Your customers, too, would prefer to buy LPG through meter-measure. It's the equitable way because you and your customers are assured of accurate measurement. Shortage disputes are eliminated. It's the economical way because your drivers will save time, make quicker deliveries, hence cover more routes from each truck.

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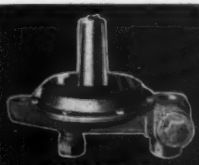
Butane Propane
por Meter

EMCO Large Capacity
Pressed Steel Gas Meter


EMCO Type "B"
Ejector Service Regulator

ROTOCYCLE Meter for
Liquid Butane - Propane

NORDSTROM
Lubricated Plug Valve

# BUTANE-PROPANE *News*

Reg. U. S. Pat. Off.

## Contents for September 1943


| | |
|---|---|
| Letters | 4 |
| Guest Editorial: Let's Improve the LPGA! *By John L. Locke* | 8 |
| Mainly Beyond the Mains | 11 |
| Butane Makes Ideal Temperature Control Possible in Commercial Dehydrator *By P. F. Murphy* | 14 |
| New Order Eases Restrictions on Making Cooking and Heating Stoves | 19 |
| Shipbuilders Find Propane an All-Purpose Fuel *By G. G. Bedell* | 21 |
| Propane Helps Chicken Farmer Win Success in Oklahoma *By O. D. Hall* | 22 |
| Supplier-Consumer Cooperation Needed to Meet Butane Demands | 25 |
| Big-Inch Pipe Line to East Coast is Now Delivering Texas Oil | 27 |
| History of LP-Gas Chronicled in Hanlon Award Presentation | 29 |
| The Bottled Gas Manual—Chapter 21, Part 1 *By C. C. Turner* | 36 |
| Butane Power | 57 |
| Massive Dam Trucks Use LP-Gas | 57 |
| La Grande Town Plant Sold to California-Pacific Utilities | 76 |
| Classified | 78 |
| Advertisers | 80 |



***Publication Office***

Los Angeles (14)—1709 West Eighth Street. Phone: DRexel 4337.

***Branch Offices***

Dallas, Texas—3645 Haynie Avenue. Phone: Justin 8-1764.
Chicago—1064 Peoples Gas Building. Phone: HARrison 6634.
Washington—Editorial Office, 850 Munsey Bldg. Phone: District 2118.
New York (17)—Advertising Office, A. M. Willcox & Associates, 420 Lexington Ave. Phone: LEXington 2-4816.



JAY JENKINS, President and General Manager.
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September 1943. Volume 5, Number 9. BUTANE-PROPANE *News* is published monthly. Copyright 1943, by Western Business Papers, Inc., at 1709 West Eighth Street, Los Angeles, California.

Subscription price: United States and U. S. Possessions, Mexico, Cuba, South and Central American Countries (in advance), 25c per copy, one year $1.50, three years for $2.50. All other countries $3.00 per year. Entered as second-class matter May 29, 1939, at the post office at Los Angeles, California, under the Act of March 3, 1879.

Member of Audit Bureau of Circulation; Associated Business Papers, Inc.

Publishers: GAS, The *Natural* Gas Magazine; HANDBOOK BUTANE-PROPANE GASES. WESTERN METALS.

# Teamwork . . .

Just as the huge liner depends on the team-work of tiny "tugs" to help make port, so is our service made possible by *your* "tugs", "lifts" and courtesies."

We appreciate the splendid cooperation of our many customers and by teamwork with them, Anchor continues to supply the highest grade Butane and Propane.

"Service" is our middle name.

Anchorgas

BUTANE-PROPANE

**ANCHOR**

**PETROLEUM COMPANY**

TULSA, OKLAHOMA

# LETTERS

Gentlemen:

I have a gas range that is causing me no end of trouble. When the oven is lighted its impinging is beyond understanding. The installation in question is one of an 8-apartment system and the range troubling us is in the last apartment from the fuel supply. I first thought that would be the trouble so I put in 100-gal. extra supply tank but it did not help. The range right at the system acted the same way. I have removed the complete burners, cleaned them and done everything I can imagine should be done, and still they do not function properly. I then thought perhaps the trouble could be caused by the gas supply getting low but that is not it for there is a reserve of 300 gals. in the tanks this morning, and the trouble still exists.. A 300-gal. system should carry eight ranges and eight 2,000 Btu. heaters even when they are all in operation. Can you give me any information?

M.F.N.

Oregon

There might be several causes to the impingement which you refer to. One could be the lack of ventilation into the oven. We do not believe there is anything the matter with your system from the description you have given. Do you, by chance, have natural gas orifices and burners in your stoves? It could be that these orifices are too large. —Ed.

•

Gentlemen:

Where can I purchase a bottled gas brooder stove for chickens? About three years ago we took a burner off of a hot plate stove and made a makeshift brooder. Have been using it ever since but it isn't reliable enough. Next year I want to raise more early chickens and may be this year would like to purchase a good new brooder stove to put on our old equipment. Can you tell me where I can find one?

R.A.L.

Iowa

We have your letter in which you ask for the name of a manufacturer of brooder stoves that use liquefied petroleum gas so that you may equip your chicken farm with some this year.

We are very glad to give you the name of the A. R. Wood Manufacturing Co. of Santa Cruz, Calif. We are also taking the liberty of sending your name to the above named concern and asking that they send you some literature.—Ed.

•

Gentlemen:

In journeying about the country, I have noted that liquefied petroleum gas dealers have often taken on the sale of furniture, clothing, souvenirs, and many other such items in an effort to tide themselves over and bring additional income during this period of regulated sales.

In looking about the territories served by these dealers, it is apparent that a large volume of LP-Gas business could be had throughout the territory if the dealer would only analyze his situation and go after the business which coincides with the war effort and not only is allowed but actually encouraged under the governmental program.

In numerous cases large manufacturing plants and war industries, including additional defense housing

facilities, have often appeared, and if the LP-Gas dealers would focus their attention and efforts on this class of business, they would increase their sales many-fold.

In the event the new war plants coming into their communities are established on natural or manufactured gas lines, there may be a peak demand for standby requirements in connection with the new plants that the local gas company may find very difficult to take care of. Where such condition exists, the dealer can supply an auxiliary gas system to smooth out the peaks for the local gas campany or to take over the entire gas service in case of public utility gas failure. Should the new war plants be located in districts that are not supplied by manufactured or natural gas, the LP-Gas dealer may supply their entire requirements of fuel, as propane and butane gases are ideal not only for space heating and hot water purposes, but also for all gas uses throughout a manufacturing plant, such as heat-treating, annealing, case-hardening, and others.

The LP-Gas dealer, by devoting his activities to such industrial uses, may greatly increase his sales of propane and butane, as well as equipment, and establish himself in the community in such a way that after the war it will be a great deal easier to pick up new domestic consumers, inasmuch as he can point with pride to the industrial establishments in the district using his products and depending upon him for gas service.

Harold W. Smith,
President,
American Liquid Gas Corporation,
Los Angeles, California.

We know that the industrial and commercial fields have large possibilities for dealers—now and after the war. Those who seek this business are certain to profit.—Ed.

Gentlemen:

We are interested to know about the type of pot that is used with either propane gas or oil in the citrus fruit groves in your state. We, in the east, know nothing about the application of heat in this matter and would have use for an article of this sort only in unusual cases in the fall to guard against freezing by some few people who wish to prolong their summer gardening as late as possible. Any information you can give us will be appreciated.

W.A.C.

Maine

Liquefied petroleum gas has been used to some extent in California and Arizona for orchard heaters. I suggest that you write to the following firms who either manufacture special burners or distribute special equipment and whose installations have included orchard heaters: American Liquid Gas Corp., 1109 So. Santa Fe Ave., Los Angeles; Ransome Co., Emeryville, Calif.—Ed.

•

Gentlemen:

We are enclosing our check in the amount of $2 for two of your gas flow calculators.

We have certainly gotten a lot of good constructive ideas out of your BUTANE-PROPANE *News* and we feel that it is an invaluable asset to anyone in the bottled gas business.

N.E.J.

Maryland

The gas flow calculators have been mailed you. We are glad you have profited from reading this publication. Its prime objective is the dissemination of facts about the liquefied petroleum gas industry which will be helpful to those who are producing, manufacturing and distributing the fuel and the equipment and appliances built to use with it.—Ed.

•

• **BUTANE-PROPANE *News* welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed.—Editor.**

# WHAT ABOUT POST-WAR DELIVERIES

**A COMPLETE LINE OF LPG CONTROL EQUIPMENT**

# SOME STRAIGHT THINKING ABOUT YOUR FUTURE BUSINESS PLANS . . .

Delivery of Equipment is all-important to your post-war business and to the post-war plans you're thinking about now. As we see it, the following factors are involved in this matter of deliveries and we believe your recognition of them will help you lay solid workable plans for the future.

1. At this writing the manufacture of LPG control equipment is under strict government control. We believe this condition will continue for the duration and beyond in order to prevent unbalanced civilian production.
2. Post-war deliveries will also depend upon government control and allocation of raw materials. The continuation of that policy will probably be determined by conditions as they exist when peace comes.

As for our place in the delivery picture — we can assure you that we are better prepared to serve you than ever before.

1. Our production facilities — trained personnel, machine equipment, and plant area — have been stepped-up to a point far beyond our former manufacturing capacity.
2. When we get the "green light" these increased facilities can be immediately utilized in the production of LPG equipment. There will be no lengthy period of conversion or retooling — instead deliveries can be made in a minimum amount of time.
3. We will be in a position to supply you with a complete line of LPG equipment including Regulators, Cylinder Valves, Underground Equipment, Self-Service Systems, Bulk Station Equipment, etc., in quantities to adequately take care of your requirements.

A dependable source of supply for your equipment requirements will be of first importance in your post-war planning. Fisher Governor Company's leadership in the industry plus its greatly expanded facilities for serving you in the future merits your consideration.

We are proud to fly the Army-Navy "E" flag which has been presented to us in recognition of the all-out effort this plant has made in producing automatic control equipment for the Army, the Navy, Lend-Lease and the hundreds of new war industries.

FISHER GOVERNOR COMPANY

• Fisher Building • MARSHALLTOWN, IOWA

# Let's Improve The LPGA!

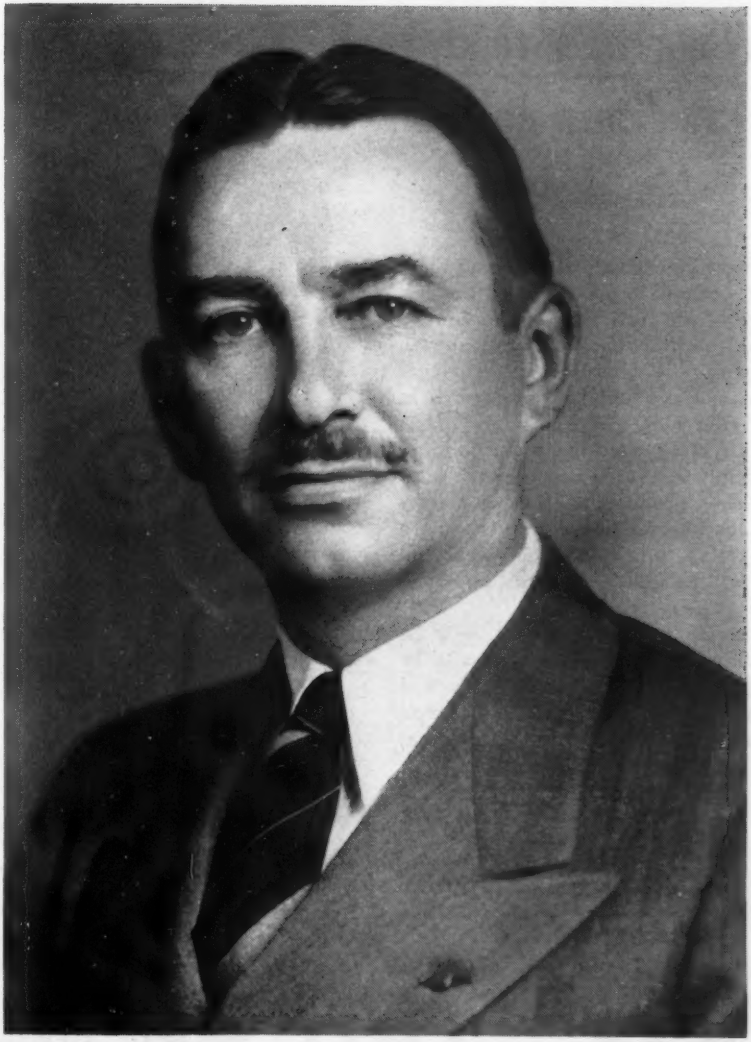
By JOHN L. LOCKE
Chairman, Midwest Section, Liquefied Petroleum Gas Association

WHENEVER LP-Gas men gather together now-a-days there is one subject that is sure to bob up, and that is bringing LPGA up-to-date. We therefore should conclude there is room for improvement. It has been demonstrated without a shadow of a doubt that our association is a vital necessity if we are to advance the best interests of the public we serve and our own common good. Granted that the Liquefied Petroleum Gas Association is a necessary organization, is it not best to proceed in an orderly, constructive, unselfish manner, without indulging in discussions of personalities, to put into effect such improvements as are apparent at this time?

Walter Naumer was absolutely correct when he brought out at several sectional meetings the fact that we really did not exist as a going concern until after the New Orleans meeting in January, 1941, when dues were raised. Article IX of our Constitution provides for dues of $25, $50, $100 and $250, depending on gross sales. This article has never been amended as provided in Article X, but after the meeting in New Orleans dues were scheduled at $40, $80, $160 and $375. This raise of dues brought in money which was absolutely necessary if we were to function properly. Why not double these dues now by amending Article IX and make it possible to still better our association and enable it to return still greater value to us all?

Article VI makes sectional divisions subject to the Executive Board. This seems much like providing for the tail to wag the dog. The strength of our association lies in powerful and active sectional or regional divisions represented by board members who are elected by the sections with no consideration given to the member's company or whether it pays dues of $12 or $1200 per year.

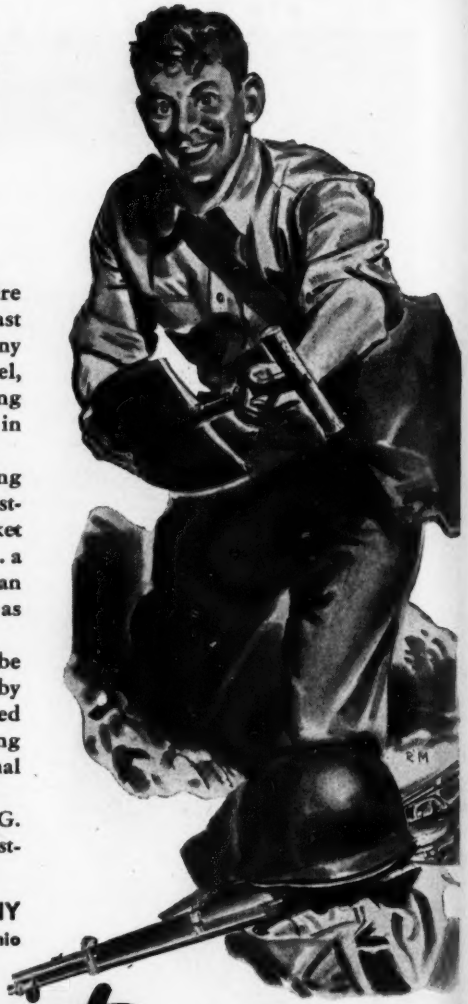
The above are just two suggestions offered for your consideration in a spirit of helpfulness and with an idea of improving our necessary association.



**JOHN L. LOCKE**

**Guest Editor for September**

# When he's ready to "turn in" his shovel



Someday, those lads of ours over there are going to "spade under" the last hope of the Axis. And, when Johnny American "turns in" his army shovel, he won't be interested in renewing acquaintances with the one he left in the cellar some time ago.

This, plus the fact that home building probably will reach new peaks in post-war days, promises the greatest market for gas heating that ever existed . . . a market in which gas equipment can and will be sold for low-cost homes as well as larger residences.

Dealers who sell Bryant will be offering quality equipment, made by the pioneers of gas heating . . . backed by a national sales and engineering organization . . . pre-sold by national advertising.

It will pay *you* to include Bryant L.P.G. gas heating equipment in your post-war plans.

**THE BRYANT HEATER COMPANY**
17825 St. Clair Avenue Cleveland 10, Ohio
*One of the Dresser Industries*

**Bryant GAS HEATING**

**Let the pup be your furnace man**

# MAINLY BEYOND THE MAINS

By ELLIOTT TAYLOR, Washington Editor

## Government Slowdown

With the government in the position of wielder of the whip urging speed and still more speed on industry, we view with some misgivings the internal snarling up within PAW of the comparatively routine problem of appointing 30 men to serve on the five LP-Gas district industry committees.

It was about the middle of May that members of the industry were invited to submit nominations for such committees, with the deadline set for June 10. A reasonably representative response from producers, distributors and dealers was received, enough to select the committees from, with every district and every type of interest in the business being sure of adequate representation.

By the middle of July everyone who was interested either knew or could find out without much trouble who was likely to be selected to serve. And from then to the present writing, which is the middle of August, the whole matter has been lost in the mysterious maw of governmental precedent and prestige. We are hopeful that by the time this comment appears in print the names will have been announced, and that the committees will have started to function.

Certainly if PAW, by any further delay in the matter, gives grounds for the rising suspicion within the industry that LP-Gas is being pushed into the background as a PAW stepchild it will be the administration's own fault. If everyone is so busy down in the air conditioned New Interior Building that they can't get out a list of 30 names, we will be glad to undertake the chore for them. And it will take us not 30 days, or 30 years to make the selection. Just 30 minutes will be enough, and we will send out the telegrams to boot, signed by any name that the administration wants. And if they want us to decide on that name we will give the appointments the prestige that they deserve by signing them all Harold L. Ickes.

## Pricing Problems

There are indications that OPA would consider favorably any presentations or arguments from the industry supporting the necessity of a new pricing formula for butane and propane. As matters now stand there are three OPA orders that affect LP-Gas and not one of them was written with the practices and

problems of this industry in mind. OPA 88, covering price regulations on petroleum products freezes the prices on those products at the refinery, distributor and tank wagon level at the last sale in the 60-day period ending Oct. 15, 1941. Truck deliveries of filled cylinders of propane are classed as tank wagon in the interpretations of this order.

Cash-and-carry or self-service cylinders, however, are not blanketed by OPA 88, and as a result they fall under the so-called General Maximum Price Regulations, which means prices are frozen at the highest price prevailing in March 1942.

The delivery of butane into vehicles as a motor fuel is classified under still different rulings, so that it is considered by OPA to fall under the general restrictions of OPA order 137 covering the delivery of retail gasoline and diesel oil. Since OPA 137 allows service stations a 3-cent per gallon mark-up on fuel sold, the question of whether or not butane sold for use in a motor vehicle is actually a motor fuel is presently awaiting a legal interpretation.

That's as far as the dealers are concerned, but there is still another angle to the question as it affects the refineries. For under Order 88 petroleum products going into high octane aviation gasoline or synthetic rubber are outside of all price ceiling regulations. Which may quite conceivably account for the premature butane shortage scare that was recently promulgated in the state of California.

OPA doesn't relish wallowing in the morass of its own creating, but the path to a higher ground of a sound pricing policy for the whole industry will have to be pointed out by someone who knows something about the industry. We commend the whole problem to the competent and informed executive committee of the Liquefied Petroleum Gas Association.

## Industry Obligations

We have never held to the theory that unprofitable customers should be kept on the books of any dealer in LP-Gas any longer than is necessary; and in the past we have frequently advised against tying up cylinders, regulators, valves and other equipment for the convenience of summer homes, weekend lodges and other types of intermittent service that represent too small a gas load to show a profit year in and year out.

But there is a considerable distinction that must be made between users in this more or less non-essential category and regular households using butane or propane as their fuel who, because of their distance from the bulk station, or their location in an undeveloped area represent under war conditions a less profitable load than the dealer would now be able to pick up close at hand.

In both the gas and electric utilities industries there is a tradition that amounts to a personal obligation self-imposed on every employee that service must be maintained under any and all conditions and at all cost, and the public over the years has come to expect and accept this service regardless of the difficulties that have had to be overcome in its delivery.

We don't have to look back very far to remember the days when one of the arguments advanced by the electric interests against LP-Gas was in the form of a snide insinuation that the service couldn't be depended on. Anything from a heavy rain to a hangover would be enough to discourage the irresponsible dealer from making deliveries of gas, whereas the omnicompetent power company could be expected to surmount any obstacle up to, and quite possibly including, an act of God.

Right now there are unprofitable individual accounts on the books of many LP-Gas dealers. They are unprofitable for any one of a variety of reasons, some of them the fault of the customer, some the fault of the dealer, himself, and many no doubt falling in the category of crimes that must for the moment be attributed to the enemy.

The question then presents itself as to what the dealer should do about gas users who because of gasoline and rubber shortages present delivery costs that are out of proportion to their worth to the gas supplier. If such users are bona fide residents who depend on gas for their year-round fuel, there are but two possible solutions to the problem: the dealer can either barter, sell or give the accounts to a one-time competitor who can serve them at a profit, or he can continue to serve them himself even though he may have to do so at a loss.

We believe that in most instances an exchange or, if necessary, an outright gift of customers to a more conveniently located dealer will solve the problem. In those cases where service must be continued at what appears to be a bookkeeping loss, the dealer must have enough confidence in the future of LP-Gas, and in his ability to make the most of its possibilities, to write off the temporary lack of profits against the day when the resumption of normal business activities will make possible the returns that he is entitled to.

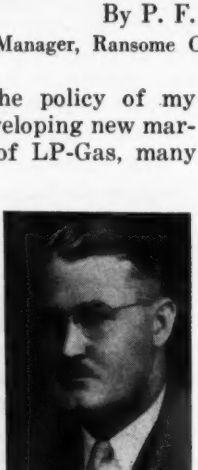
And just to keep the record clear, we don't mind stating that, in our opinion, if there is any wholesale abandonment of customers in the LP-Gas industry the process will be promptly stopped by government directives. And once such directives have been issued they will be a long step toward the ultimate goal of the regimenters, who would like to see the indusry classed as a public utility, and brought under the jurisdiction of local and national regulatory bodies in all matters respecting rates, service and handling.

## *Butane Makes Ideal Temperature Control Possible in*

# COMMERCIAL DEHYDRATER

By P. F. MURPHY
District Manager, Ransome Company, Sacramento, California

ALONG with the policy of my company of developing new markets for the use of LP-Gas, many experiments have been made in the dehydration field, dehydrating practically everything from soup to nuts.



P. F. MURPHY

Several years back, tests were started by changing over some of the older types of indirect oil burning progressive dehydraters, to LP-Gas. These units were designed to dehydrate whole fruit such as prunes and figs. Several methods of burner control arrangements were tried, depending on the construction and lay-out of the dehydrater. Most of these tests indicated a bright future for LP-Gas in this field. However, many obstacles presented themselves from a practical standpoint, when attempting to estimate the commercial value.

There were three general methods of changeover finally worked out. One is the installing of LP-Gas burners firing indirectly. This is the same method used in firing with oil. The burners fire into a furnace and radiated heat is circulated through the dehydrater. The main objection to this method is temperature lag and stack losses of heat.

The second method is by doing away with the furnace, radiator, condensers, etc., and installing the LP-Gas burners firing directly into the inside air flow. This direct fire set-up with automatic control of the burners, proves highly successful. The capacity of the dehydrater is increased by exact control of the heat. The heat range is more flexible, cutting down inside temperature fluctuations at door opening periods, when discharging and charging with fruit. This also holds true during severe outside temperature drops on cold nights. Stack losses and radiation losses of heat, are eliminated by this method.

The products of LP-Gas combustion contain water vapor, nitrogen, and carbon dioxide, which are beneficial to the dehydration process. The following theory, will tend to bear this out: Heat loss by the drying medium in passing over the product, is proportional to the amount of moisture picked up and carried away. Approximately 1000 Btu. of heat is required to convert one pound of water to vapor (latent heat of vaporization). Since the moisture-carrying capacity of the

air is directly proportional to its relative humidity, the higher the temperature of the air, the greater is its moisture-carrying capacity; and while the moisture removal is more rapid at low humidity, if the humidity is too low, moisture is taken from the surface of the product more rapidly than can diffuse from the inside; therefore, a medium point of temperature and air flow relationship must be taken to prevent the formation of a dry outside layer, or "case hardening," as it is called.

By making certain minor changes in the dehydrater air flow controls, and increasing the fan speed somewhat, ideal wet and dry temperatures can be maintained. Adjustments should be made with the assistance of a hygrometer placed in the exhaust side of the dehydrater, where an exact check can be made of the humidity and temperature of the air leaving the product. The carbon dioxide gives protection to the product from the heat during the critical temperatures reached during the last stages of dehydration, and nitrogen adds to the quality in general. This all tends to produce a product with more natural color and translucency, regarded essential by higher trade standards.

The third method, is by using the existing oil burning equipment, and installing the LP-Gas burning equipment, as an auxiliary set-up, firing directly into the inside air flow. The LP-Gas equipment is arranged the same as the second method. With practically the same minor adjustments in the dehydrater controls, the same results are obtained. This set-up has its advantages, which the writer will attempt to bring out in this article.

As a general rule, a dehydrater never seems to have enough capacity to dehydrate all the fruit available in its community. A dehydrater with all its accessories is

**Typical storage for dehydrater tank and a delivery truck that provides butane.**

Diagram for burner and electrical control hook up of dehydrater for typical LP-Gas installation.

quite an investment for the average owner, and usually must be amortized over several seasons.

The average operator studies the undesirable characteristics of his particular dehydrater, largely by the cut and dry method. He is prone to revamp his existing set-up to cope with varying seasonal problems, rather than investing in the new, more modern equipment the market may afford. A predominate factor, outside of the initial cost, is the uncertainty of crops, prices, etc., difficult to determine from season to season, until near harvest time. He then must set up to dehydrate the fruit in sight.

**Staggered Planting Encouraged**

For years processors of dehydrated whole fruit (prunes, grapes, figs, etc.) have been growing, or encouraging the growing, of early and late varieties of fruit. The main object is to stretch out the harvest season. This practice not only allows a longer dehydration period, but more fruit goes through the dehydrater without fear of spoilage, while waiting to be processed. Many processors operate a sun dry yard in conjunction with the dehydrater for overflow.

This all tends to set up sales resistance in trying to sell an operator on the idea of making any radical changes in his existing equipment. There is the cost of a large LP-Gas storage tank and the cost of LP-Gas against oil. Distributors of LP-Gas are also usually reluctant in taking on such large peak season load, of short duration.

At present, the special war problems, the lack of transportation facilities, the shortage of metal containers, and the poor supply of labor, should force growers, more than ever, to turn to the dehydration of all kinds of fruit, thereby taxing existing dehydraters to the limit.

Since the government is doing everything to encourage industry to conserve materials, and get the most out of existing equipment, it would seem this auxiliary LP-Gas set-up would have a great appeal to dehydrater operators who are now operating on oil.

First, it allows the oil equipment to be operated at its most efficient point, thereby cutting down oil consumption, and minimizing maintenance cost of equipment that is necessary when burning oil.

Second, the output of the dehydrater is increased by holding constant heat, regardless of door openings and outside temperature drops.

Third, quality of the product is increased greatly, because the wet and dry temperature can be controlled exactly. Products of LP-Gas combustion carry certain elements beneficial to dehydration of fruit.

Fourth, the installation of an LP-Gas auxiliary set-up does not require any radical changes in the dehydrater; comparatively small fuel storage is required, and dependable service can usually be had from the local gas dealer.

With this auxiliary installation, LP-Gas is piped underground from a suitable storage tank, under its own pressure in liquid state, to specially designed burners for vaporization and combustion. The

burner consists of a spread head, jacketed by a vaporizer, a venturi, pilot, necessary valves and fittings. Liquid is introduced into the bottom of the jacket, where it is vaporized by the conducted heat of the burner head. It then goes through requisite valves, or controls, to an orifice in the throat of the venturi, where combustion air is inspired.

The burners are governed for maximum heat output, or high flame, by electrical controls, a pyrometer being located in the inside air flow of the dehydrater, which operates magnetic valves on the burner, through a relay cut-out. The minimum heat, or low flame, is manually set to hold the temperature constant with the heat supplied from the oil burning apparatus. When the temperature drops at door openings, the high flame cuts in. Constant, dry temperatures are controlled within one degree.

Most operators agree that after dehydration is started, the ideal heat for dehydrating average whole fruit, is 165° F. dry bulb with a relative 95° F. wet bulb temperature, in an air velocity of 1000 ft. per minute. A fresh air pull of approximately 10% to 20% of the dehydrater capacity is required.

On one dehydrater, with the auxiliary set-up, the operator claimed the capacity for dehydrating French prunes, was increased from 30 tons to 40 tons per day. The quality of fruit brought much better returns than when dehydrated with straight oil heat; fuel costs were practically the same, and the dehydrater in general operated more smoothly. As the operator put it, "No Headaches."

**RIGHT: A dehydrater plant at Woodland, Calif. LEFT: Dipper and sorting shed. Shown in the picture are (left to right)—Tallent H. Ransome, Ransome Co.; Ellard Younger, Younger Dehydrater Co.; Harold Costello, Standard Oil Co. of Calif., and P. F. Murphy, author of accompanying article.**

# New Order Eases Restrictions On Making Cooking and Heating Stoves

LIMITATION Order L-23-c, amended July 29, provides that after Sept. 1 new units may be sold (1) on a priority of A-10 or higher; (2) pursuant to a rationing order of OPA.

General restrictions of the order are:

1. No one shall manufacture such stoves except a "producer" who manufactured, fabricated, or assembled domestic cooking and heating appliances during the base period, July 1, 1940, to June 30, 1941.

2. Only materials in inventory on July 29 or acquired by authority of WPB under CMP can be used. Class C manufacturers (those whose products had a factory sales value during the base period of less than $2,000,000 and who are not in a labor shortage area) will, in general, be allowed to produce up to 100% of their base period unit production before class A manufacturers (those whose products had a factory sales value of over $2,000,000) or class B manufacturers (those whose products had a factory sales value of less than $2,000,000 but who are situated in a labor shortage area) will be authorized to produce. However, total production of gas ranges cannot exceed 40% of the production during the base period; of gas hot plates, 75%; of gas-fired heaters, 75%.

3. Manufacturers are restricted to fuel types made during the base period, except for combination ranges and domestic heating stoves.

4. Types that can be made are as follows: (1) Gas ranges—two models, one to have three top burners, broiler optional. One to have four top burners with broiler and bake oven. Maximum weight of iron and steel in finished product, 100 lb. (2) Gas hot plates—three models are permitted, one, two, and three burner; 15 lb. of iron (no steel) allowed. (3) Gas and coal or wood combination ranges—one model, lightest in producer's line after July 1, 1940. (4) Gas radiant heaters—10 models, ranging from 12,000 or less to over 45,000 Btu. capacities per hour. (5) Gas circulating heaters—six models, ranging from 30,000 to over 50,000 Btu. capacities per hour.

*Exceptions:* Any manufacturer is allowed until Oct. 27, 1943, regardless of any restriction in the amended order, to produce any domestic heating or cooking stove, provided that he had in inventory on July 29 fabricated iron or steel parts which total at least 50% of the total weight of iron and steel in the assembled appliance. No restrictions on making of repair parts. Trailer stoves may be made.

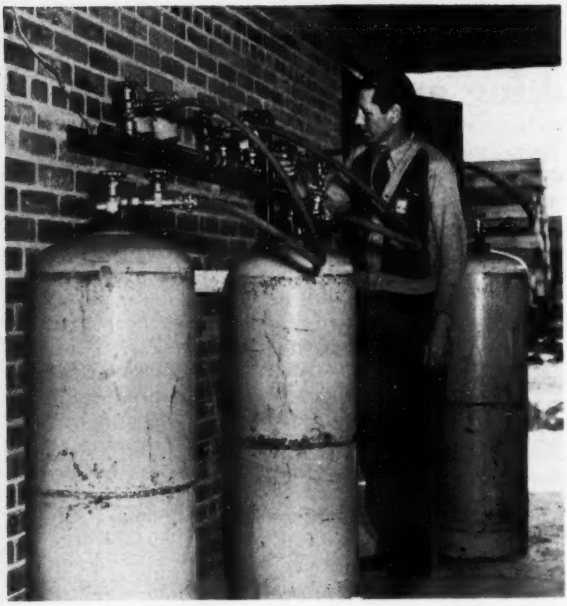
◆ ◆

## New Interpretation On CMP No. 5

Products or material for repairs or replacements may not be obtained under CMP Regulation No. 5 if they are capitalized on the purchaser's books, except insofar as this is expressly permitted with respect to minor capital additions, the War Production Board announced July 17.

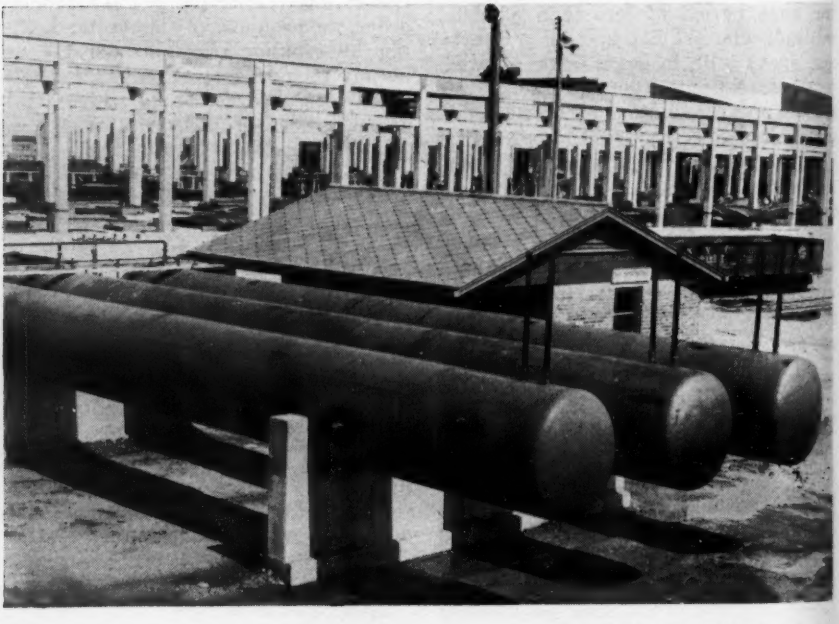
This ruling is contained in Interpretation No. 8 to CMP Regulation No. 5.

# L-P Gas In A Shipyard



G. L. Pettigrew, superintendent of the propane, acetylene and driox plant of St. John's River Shipbuilding Co., Jacksonville, Fla., charging cylinders with LP-Gas for portable use. Eighty 100-lb. bottles are needed to meet plant requirements.

Three propane storage tanks have been installed to supply gas for the extensive and varied demands of the shipbuilding plant. These are 50 ft. long, 5 ft. in diameter, and designed for 250 lbs. working pressure.



# Shipbuilders Find Propane An All-Purpose Fuel

By G. G. BEDELL
Jacksonville, Florida

WITH the curtailment of domestic and commercial business during the past year we have been forced to concentrate our attention and efforts on the industrial field, and particularly on the war industrial field.

Formerly we actually avoided consideration of industrial applications of LF-Gas because we were busy with the other kinds and did not realize what a big load we were overlooking. But when firms with problems concerning heating, heat treating, metalizing and other industrial uses actually came to us for assistance we awoke to the possibilities.

We recently had the privilege of helping in the design and construction of what will probably be one of the last large bulk installations to be made during the war for any except the most urgent of reasons.

The installation is that of an LP-Gas plant for the St. John's River Shipbuilding Co., of Jacksonville, Fla. Numerous shipyards employ the use of LP-Gas for pipe bending, heat-treating, etc., but we have knowledge of none which is as completely equipped as this yard.

A great deal of credit is due the officials of the yard who not only made themselves thoroughly acquainted with the merits of LP-Gas when considering a general purpose fuel, but also had the foresight to envision the very probable shortages of kerosene and fuel oil and of cylinder equipment for oxygen and acetylene, for which our fuel is an excellent substitute, when used with compressed air, in many activities.

In laying out the LP-Gas plant, provision was made not only for the necessary two miles of 3-in. and 2-in. mains that carry the gas to numerous outlets in the pipe and copper shops, the machine shop, blacksmith shop, and to various buildings where heaters are installed, but also for the loading of portable cylinders used with plumber's furnaces and other beyond the mains applications.

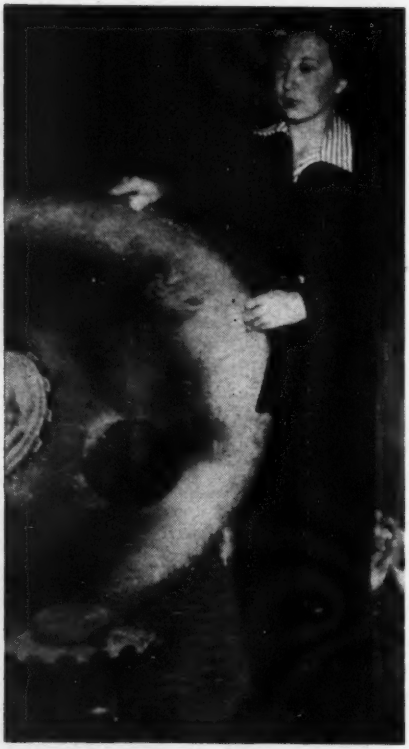
In the design of the plant itself, it was decided to use the batch system for supplying the vapor, and propane is used. The storage tanks are 50 ft. long by 5 ft. in diameter. They are designed for 250 lb. working pressure. The cylinder loading manifold is four-place and a hand pump is used to transfer the fuel. Four cylinders can be filled in about 15 minutes. The St. John's Yard owns and employs 80 100 lb. cylinders.

The load that we have added by this one installation is large and suggests a great field for us and other LP-Gas dealers during the war and after the conflict is over.

# *Propane Helps Chicken Farmer Win Success in Oklahoma*

By O. D. HALL

CHICKEN raising on a large scale, with economy and a minimum of inconvenience, is now possible for Mr. and Mrs. Vernon W. Shedeck by use of LP-Gas on their 480-acre farm two and a half miles southwest of Yukon, Okla.



Mrs. Vernon W. Shedeck holds hover on edge to reveal propane gas burner converted from a used hot water heater. There is one of these in each of the six brooder houses.

Propane gas, furnished by the American Butane and Propane Gas Co., of Oklahoma City, not only has kept the six brooder houses on the farm at proper temperatures in all kinds of weather, but has heated the Shedeck home, the chicken killing and dressing room in the residence and furnished hot water for the dressing operations.

When this was written (in July) use of the fuel was at the minimum as no artificial heat was required in the brooder houses. However, in cool, wet weather the propane is utilized to keep the baby chicks from chilling and suffering from dampness, thus reducing losses from exposure diseases that attack the broods during spring, fall and winter months.

An aboveground tank of 175-gal. propane gas capacity is set in a central location and the fuel is piped underground to the residence and the six brooder houses which are grouped closely together.

Mr. Shedeck is kept very busy looking after his 480-acre farm located in the fertile wheat and corn belt surrounding Yukon. Thus, much of the responsibility for raising and marketing young chickens at the rate of about 12,000 a year

falls upon Mrs. Shedeck. However, her husband, who was absent with a threshing gang when this writer visited the farm, puts in as much time as possible with the chickens and keeps the books on all the farm operations.

Mrs. Shedeck is very enthusiastic about the advantages of LP-Gas in the operation of a chicken raising business.

"We do not hatch the chickens," Mrs. Shedeck explained. "We buy 500 baby chicks every two weeks and place them in the brooder houses. Each house has a capacity of 500 chicks. When they are from eight to 12 weeks old we start killing and dressing them for the market. We have a chicken dressing room in our home which we keep at proper temperature with a propane gas heater.

"In addition to the economy of propane we find that it is much more convenient and safer than the distillate we first used when we started in the chicken business," Mrs. Shedeck continued. "I spent much time carrying the old fuel to the various brooder houses. Now all I have to do is to turn on the gas sufficiently to create the proper amount of heat and I do not have to worry about the possibility of the fires going out and of sustaining heavy losses of chicks from chilling. The propane is much safer, too, for we had one fire with the old fuel which might have caused us great loss."

The Shedecks overcame difficulties presented by scarcity of equipment and materials by purchasing six used gas hot water heaters. They removed the burners from these and had them converted for use with LP-Gas. Each

**Interior of brooder house on Shedeck chicken farm in Oklahoma, showing propane gas brooder set-up. Two LP-Gas space heaters at top of picture are ready for use in case of extremely cold weather.**

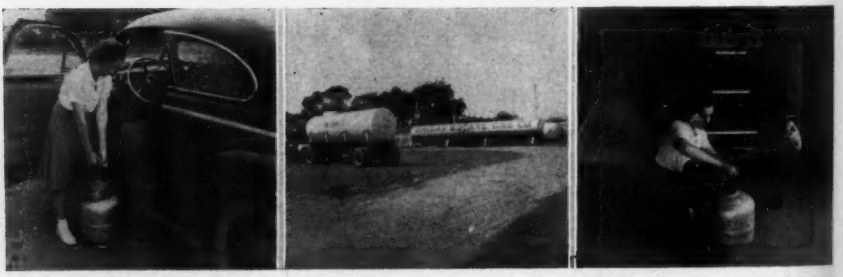
of these was erected on a frame beneath the hovers suspended from the roof of each brooder house. Very satisfactory results have been obtained in this way. During average winter weather the heat from these brooder burners has created enough warmth to protect the baby chicks. However, some small LP-Gas space heaters are kept handy for use in emergencies created by extreme drops in temperature.

Records in the office of the American Butane and Propane Gas Co. bear out Mrs. Shedeck's claim of economy in the use of propane. The gas bills for the five months from January 22 to June 22, 1943, have averaged less than $8 per month for all purposes, including heat for six brooder burners, five space heaters used in the home and several smaller space heaters used occasionally in the brooder houses during extremely cold weather.

The cost of operating with distillate was about 37 cents per day per brooder of 500 chicks. Five to eight gallons were used each day for each 500-chick brooder in freezing to zero weather last winter. The average was slightly over five gallons per day to raise the chicks from babies to 12 weeks old. Cost of the distillate was seven cents per gallon.

Under the same conditions, after adopting LP-Gas, an average of three gallons per day of propane was used per brooder at seven cents per gallon which placed cost at 21 cents per day per brooder.

The newer brooders, such as shown in the accompanying picture, are a product of the Reliable Manufacturing Co., of Los Angeles. Some of the old oil burning brooders also were converted to gas by fitting the hovers over the hot water gas heater burners, as stated.



**Eva Joe Kendricks is loading a "cash-and-carry" Hackney cylinder into a rural customer's car parked outside the office of the Dallas (Texas) Butane Gas Co., of which James E. A. White is president. Small cash-and-carry systems are increasing rapidly in popularity in the Southwest, due to the many defense housing units and the movement of families from cities to the country. Center: The company's bulk plant and tank truck. On the right, Miss Kendricks is demonstrating an air raid warning horn attached to a propane bottle on the office sales floor.**

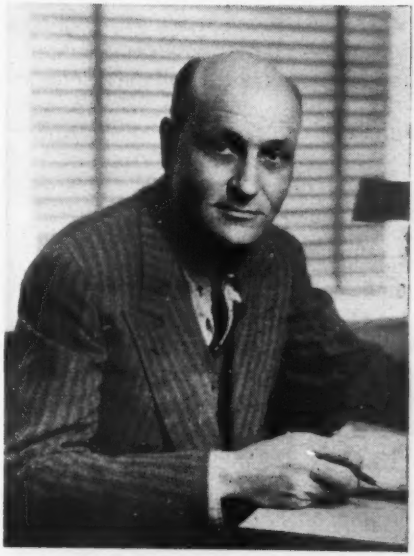
# Supplier-Consumer Cooperation Needed to Meet Butane Demands

ALLEGED warnings by producers that the butane supply on the West Coast will be sharply curtailed this fall because of government needs for synthetic rubber and aviation fuel production, have caused farmers, dealers and large users to petition the Petroleum Administration for War for advance action that will protect them against shortages which would affect agricultural crops and hit thousands of homes which depend largely or entirely upon butane for fuel.

Therefore, it will be encouraging news to hear that the PAW hopes, as a result of industry and producer cooperation, that the overall production can probably closely balance the essential demand.

The first concerted action came from the dealers of the San Joaquin valley of central California, where estimates place the number of tractors, trucks, pumping units and sterilizers using butane as high as 50,000 units. There is said to be a proportionate number of homes which use the fuel for domestic purposes. The customary demands are reported to be 2,300,000 gals. per month for Fresno, Kern, Kings, Madera and Tulare counties.

Stirred by the appeals of Robert Franklin, on behalf of the farmer associations, the Central California Butane Dealers Association has instigated an intensive survey of consumer uses and needs. This information will be passed on to Kenyon L. Reynolds, Director of Natural Gas and Natural Gasoline of District No. 5, Petroleum Administration for War, Los Angeles.



KENYON L. REYNOLDS

Mr. Reynolds and his assistant, R. W. Garman, have attended meetings in the San Joaquin valley and a thorough investigation of all facts and possible remedies for any actual shortages will be determined.

It is recognized that agricultural automotive equipment is very difficult and sometimes impossible to convert back to gasoline because changeover equipment is lacking.

In the meantime, Mr. Reynolds is endeavoring to determine what proportion of butane users can avail themselves of the currently ample propane supply, thus saving substantial supplies of butane for those whose equipment can not be converted. It is expected that many municipal plants, government army camps and large industrial users will be able to use at least a considerable percentage of propane with their existing equipment and in other cases higher pressure containers may be made available.

According to Mr. Reynolds, it is the determination of the PAW to do everything in its power to aid dealers to supply the necessary demands of consumers. It is possible, however, that farmers may have to limit their fuel consumption to some degree, applying it to only the most essential needs.

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## Dealers Warned Not To Bid Up Second Hand Range Prices

Retailers of domestic gas ranges were cautioned late in July by the Office of Price Administration against paying inflationary prices for used stoves merely because rationing of new domestic gas ranges will begin in August.

If dealers bid up prices on used ranges among themselves in anticipation of getting higher prices from the consumer after rationing starts, they will, OPA said, find themselves caught with stocks of used ranges for which they may have paid more than the ceiling prices that will be authorized by OPA's forthcoming maximum price regulation on used domestic gas ranges. OPA plans to issue this regulation at about the same time as the rationing program goes into effect. At present, used gas ranges are covered by the General Maximum Price Regulation.

The impending regulation will not sanction exaggerated charges for models of used ranges bought by dealers at speculative prices, and will, therefore, prevent the profitable liquidation of any retail stocks bought on that basis.

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## R. R. Rate Committee Will Ask Higher LP-Gas Freight Rate

The standing rate committee of the Southwestern railroad lines has developed a basis for increasing the rate on LP-Gases to 140.4% of the current rate to compensate for the lower weight of 4.7 lbs. per gal. instead of the 6.6 lbs. per gal. that has been the basis in the past and which was declared unreasonable by the Interstate Commerce Commission on May 15 in the case of Green's Fuel, Inc., Sarasota, Fla., and others, brought against several railroads.

The newly proposed rate will be presented to the Interstate Commerce Commission with the object of holding static the feright charges per car.

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## Auto Specialists Will Assist Truck Owners to Get Parts

Because of the extreme difficulty of securing truck repair parts, the War Production Board, in conjunction with the Office of Defense Transportation, has set up a considerable number of "automotive specialists" throughout the country whose duties will be to assist operators of trucks in locating parts and equipment.

Operators needing assistance should get in touch with local boards and if such boards cannot be of direct service they will refer applicants to the nearest approved maintenance advisory committee.

# Big-Inch Pipe Line To East Coast Is Now Delivering Texas Oil

TEXAS oil is now pouring from the Atlantic coast terminus of the 1362-mile "Big-Inch" Texas-to-East-Coast War Emegrency Pipeline. Dedication ceremonies near Phoenixville, Pa., occurred on July 19, which marked the completion of the greatest oil artery on earth.

At Phoenixville, the 24-in. line ends, branching into smaller diameter lines which form a Y dividing the oil stream into two currents, one running to Philadelphia, the other to New York.

The "Big Inch" is counted on to carry 300,000 bbl. per day into the New York - Philadelphia area as a winter average. In warm weather it will do better, and pipeliners are thinking of the line together with the 20-in. "Little Big Inch" in terms of 500,000 bbl. per day.

Pipe for the 810-mile eastern extension of the "Big Inch" pipeline was laid in six months despite extreme winter weather and flood conditions that hampered construction operations throughout almost the entire period of construction.

Designed to deliver 300,000 bbls.

**Firing line of welders at work on the "Big Inch."**

of crude oil or light fuel oil daily at East Coast refinery and distribution centers, the "Big Inch" may actually transport more than that amount when full operations are attained, according to PAW pipeline engineers.

The 24-in. pipeline will hold approximately 4,000,000 bbls. of oil—a perpetual reservoir moving constantly eastward at a rate of approximately 100 miles a day.

Total cost of the Texas-East Coast pipeline runs close to $95,000,000, but projected schedules of operation indicate that the line would pay out and return the full investment to the taxpayers in approximately five years of operation at full capacity.

Work on the "Little Big-Inch" products line, which will be 20 in. in diameter, is progressing favorably with 11 construction spreads now working. With a break in the weather, these should move fast.

It is expected that line fill will be started at the Beaumont end about Sept. 1, and this would mean that products should be reaching Illinois and Indiana terminals by Oct. 1. Completion dates when the line will reach the Atlantic Seaboard vary, optimistic, December; cautious, February.

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## Butane Trucks Must Display Signs on Oregon Highways

Oregon rules heretofore applied to the safe transportation of explosives and inflammable liquids on the state highways, having been adopted in their entirety in directions sent out by the Interstate Commerce Commisison, were made effective July 13 in intrastate shipments in Oregon by order of Utilities Commissioner George H. Flagg.

The order apples to carrying gasoline, butane and kindred products, including ammunition for the armed forces when transferred by commercial operators.

The order is intended to unify national and state rules covering the safe packing and carrying of dangerous explosives and to thereby expedite service.

Carriers of explosives will be required to continue to display red flags as a warning to other cars traveling between sunup and sundown, and will hang out red lights at night. They must also display "explosives" signs on the sides of their vehicles.

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## Furnace Manufacturers Get New Order

General Limitation Order L-22 was amended July 28 to permit the delivery of units on and after Aug. 1 to holders of priorities of A-10 or higher. Manufacturers may produce from materials in inventory on July 28, or as authorized from time to time by WPB under the Controlled Materials Plan.

The amended order also provides that after Sept. 26 no furnaces may be made except in accordance with the simplified practices as outlined in the order.

Limitation Order L-22-a governing steel furnaces was revoked July 28.

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## J. E. Pew Is Appointed To Natural Gasoline Division

James E. Pew has been named assistant director of the Division of Natural Gas and Natural Gasoline in the Petroleum Administration for War. The appointment was made on July 3.

Mr. James, who succeeds Paul M. Raigorodsky, resigned, has been in the PAW since January, 1942, and previously with the Viking Distributing Co., a subsidary of the Virginia Gasoline and Oil, Charleston, W. Va.

# History of LP-Gas Chronicled In Hanlon Award Presentation

**The annual recognition of meritorious service in the natural gasoline field has been expressed for some years in the "Hanlon Award," made by the Natural Gasoline Association of America.**

**As the winner for 1943 is credited with so vast an influence in the development of the liquefied petroleum gas industry, and as the presentation address, made by Ray E. Miller, retiring president of the NGAA, constitutes an interesting and valuable history of that development, the address is printed here in full.—Editor.**

F. P. PETERSON

THE saga of this man is almost the complete story of the early history of the natural gasoline and liquefied petroleum gas industries. His memories of the beginning of the industry, the men who took part in it, their methods and discoveries, their successes and failures, particularly as he himself can tell them, would make fascinating reading as historical background. Such names as Harry Sinclair, Josh Cosden, Thomas Chestnut, T. K. Smith, A. N. Kerr, George Saybolt, E. H. Leland, and many other familiar personalities of the early times appear in his narratives as intimates during the formative period of the industry. Sistersville, Bradford and Pittsburgh were the oil centers where his stories begin and they go from there through early Tulsa to the beginning of operations at Nowata, Drumright and the Osage.

Specifically, he actually started on his journey into the natural gasoline industry when, with a mechanical friend, he began making small gas engines near Pittsburgh in 1907. This venture was successful largely because of his knowledge of a practical method for making gas from anthracite coal to run the engines. In 1908, the Bessemer Gas Engine Co. was having some difficulties with some of their larger engines and asked this young man to come to Pittsburgh. This consulting errand resulted in a permanent job with the company. Having an inquisitive turn of mind, the young man was always experimenting with mechanical things and his connection with Bessemer, superintending installations of engines and compressors, gave him many opportunities to satisfy his curiosity.

### Wild Product Was Natural Gas

His first experience with a natural gasoline plant was at Kinzua, Pa., in 1909 where some of his company's compressors were in operation. It was here that he first learned that the wild product of the plant was just natural gas in liquid form. A man by the name of John L. Gray was operating this plant and had the basic patent on the making of gasoline by the compression method. The Gray patent was applied for on Dec. 14, 1907, and was granted on Sept. 14, 1909. It described a compression method of making gasoline from natural gas by using a compressor, a liquid separator, a condenser, a second

separator, a pressure relief valve for removing dry gas and a trap for removing condensed gasoline. It is interesting to note that one of the witnesses who signed with John L. Gray was Frank Holsten, who has been an active participant in the oil refining industry of the southwest for many years. After some study of the process and consultation with his company, this Gray patent was purchased for $1600.

### Wrote Article on Gas "Wetness"

The possibilities of making gasoline from natural gas had so impressed the young man that he immediately began experiments to determine what quality of natural gas was best suited to the purpose. By the end of 1909 he had worked out a crude method for determining the "wetness" of gas and wrote an article describing the method. This was the first published material on content testing and was the forerunner of many other authoritative discussions from his pen. Improvements of his method were made the following year when he published a booklet on the manufacture of natural gasoline by the compression method and gave some details of his method of analysis. In his small laboratory he used miner's lamp oil and absorption oil and combined these results with his specific gravity determinations to give him a content analysis. He used these results in determining the location of plants. His present claim is that he came within twenty-five percent of the actual content which was sufficiently accurate for plants of the day.

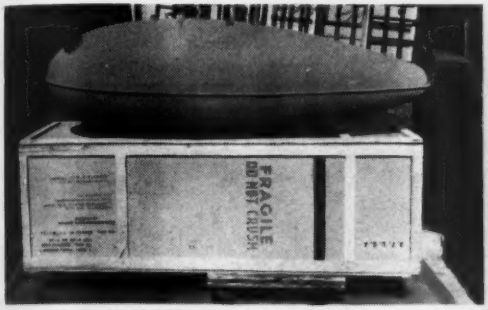
It was about this time that T. K. Smith was traveling from well to well in Oklahoma testing for gasoline output with a physical test apparatus in which a beer pump was the principal element, being used as a hand operated compressor to force casinghead gas through a cooling coil.

During his study of natural gasoline plant operations in the West Virginia and Pennsylvania fields he became impressed with the large volume of natural gas gasoline which had to be wasted in eliminating wild fractions. The weathering method of the day caused tremendous shrinkage of useful product. In order to carry out some experiments which he had in mind he purchased the Follonsbee plant at Follonsbee, W. Va., in 1911, where in the same year he experimented with several tons of ice as a coolant and liquefied a mixture of propane and butane. From this experiment he moved to use the refrigeration offered by expansion of the residue gas and built a double walled condenser pipe in which he expanded the residue gas to absorb heat from the compressed casinghead gases as they passed countercurrent through the inner pipe. The result was liquefied petroleum gases on a commercial scale and he obtained the first patent for "Liquefaction of natural gas by pressure fractionation."

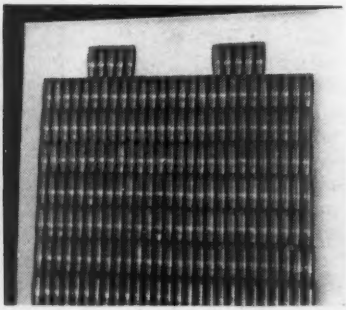
### Filed LP-Gas Patent in 1911

He filed an application for a patent to cover a method for the production of stable gasoline and liquefied petroleum gases on July 5, 1911. The patent was issued on July 2, 1912. In this patent an operation was described which involved multiple stage condensation of product. The patent suggested that gas be compressed at 50 lbs. per sq. in. and cooled to 60°F. in the condenser as a primary stage. A second stage was to be at 300 lbs. pressure with the condenser operated at 40°F. Final stage was compression at 650 lbs. and condenser temperatures as low as 32°F. By keeping the various condensates separate

# American Stove Company announces its 1943-44* models!

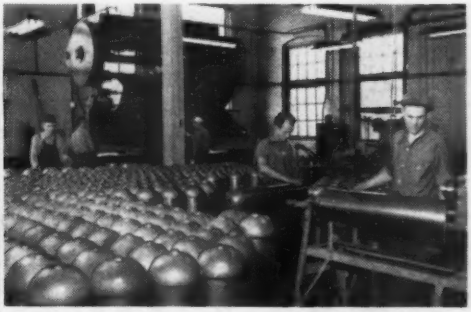



**1. Auxiliary Gasoline Tanks** for U. S. fighter planes may be dropped when emptied and while plane is still in flight. Material once used to make one All-American Magic Chef Gas Range now produces ten of these tanks, and ten of our fighter planes will fly farther because some good housewife has made a sacrifice.



**2. Anti-Aircraft Shells**—The material used to make these 250 40mm. shells would have been enough to make an All-American Magic Chef Gas Range. Every shell must pass 62 tests before it can be considered acceptable.

**3. Airplane Parts** for export to the Axis via U. S. Army planes in Axis skies. For effective performance records, see your daily newspapers.



**4. Parachute Flares** continue as an important part of our 1943-44 line. Eleven flare-casings are made from the same amount of material once used in one 7101-14 Magic Chef.

★ *Although there will be no new Magic Chef Gas Ranges for homes until after the war, the skill and new techniques required to make military equipment plus years of range-making experience will produce better Magic Chef Gas Ranges when victory comes.*

---

*Magic Chef*

THE RED WHEEL GAS RANGE WITH THE LIFETIME BURNER GUARANTEE

**AMERICAN STOVE COMPANY**

*4301 Perkins Avenue, Cleveland, Ohio*

SAN FRANCISCO . . . LOS ANGELES . . . PHILADELPHIA
CHICAGO . . . ATLANTA . . . NEW YORK . . . ST. LOUIS
CLEVELAND . . . SEATTLE

★ ★ *The Best Investment in the World is in your Country's Future — Buy War Bonds* ★ ★

**Try to figure this one out, *Schickelgruber!***

We're not going to tell you, Adolph, nor even our *friends,* what it is! The device illustrated is just one of many now made by PAYNE for the armed forces of Decency and Freedom. ★ When Victory ends our war job, PAYNE furnaces will again be available to our dealers — as always, easy to sell and sure to *stay sold.* We're planning even finer models than ever before.

**PAYNEHEAT**

NEARLY 30 YEARS OF LEADERSHIP

*Payne* FURNACE & SUPPLY CO., INC. BEVERLY HILLS, CALIFORNIA

he was able to produce a very stable gasoline, a blending stock for more volatile grades and a liquefied petroleum product consisting of a mixture of propane, butane and ethane. In this process he used countercurrent cooling with ethane-propane refrigeration.

Having found out how to produce a liquefied petroleum gas he began to see a great future for the new product. His active mind began to search out markets where it could be used. As he explored possible markets he applied for a patent on liquefied petroleum gas which he described as "a composition of matter comprising a new commercial product, gaseous at normal temperatures and atmospheric pressure, but capable of being liquefied and thereafter held in containers in the form of liquefied gas at normal temperatures under pressure practicable for storage and transportation purposes."

The patent makes it clear that he understood the nature of the hydrocarbons with which he was working. He stated in the patent application that ethane has a critical temperature of about 93°F., propane 210°F., and butane 320°F.

### Recognized Broad Field

The patent application showed that he had a clear picture of how LP-Gas could be used. He said, "Among the various uses to which my new product may be applied, are its use for machine shop work, for illumination, for supplying and running gas engines, in combination with oxygen for welding, brazing and cutting, in surgery as an anaesthetic." Only in the case of welding has the product failed to fulfill the inventor's predictions of thirty years ago.

Before the patent had been issued he had an experimental automobile operating on the streets of New York City using mixed propane and butane as fuel.

In the fall of 1914 he wrote an article for *The Oil and Gas Journal* which showed a clear insight into LP-Gas manufacturing problems. In this article he said, "The industry . . . must enter into the refining and separation of certain available gases into fractions . . . exactly similar to the separation of crude oil into its fractions excepting that the work must be done on an altogether different range of temperatures and pressures. Also the new material requires first, to be reduced to a crude liquid state, which may either be fractionated in the process of reduction, as in the continuous method of crude distillation of petroleum oil, or afterwards, at the will of the operator." That is exactly what we do today.

### Foresaw Automotive Use

In his article it was stated that LP-Gas would be valuable for operating motors in the far north in Canada (as we have found to be true in the war emergency). He stated that it would make an ideal domestic fuel for gas beyond the mains, for laboratory work, for development of intense temperatures, for lighting city streets and for metal cutting.

Heating value of LP-Gas was placed at an average of 2,500 Btu. per cu. ft. of gas.

In the same article he told of the formation of semi-solid hydrates at 32°F. which could be ignited and burned with the separation of water. (The recycle boys know about these).

When nothing came of his liquefied petroleum gases, he moved to Oklahoma fields where the boom was on. He engaged in gas analysis survey work leading to the location of "casinghead" gasoline plants. He was connected with the development of plants in many Southwestern fields.

Always on the lookout for new and better ways to produce stable grades of natural gasoline he was one of the first to install a "Rafferty" column in Oklahoma. He authorized installation of the low temperature fractionating column at the Cromwell plant of the Mid-Continent Petroleum Corp. almost 20 years ago. This same plant today is producing stabilized gasoline for refinery product blending and in addition, industrial grades of propane which are being used in war plants.

The record is clear that this man is the father of the liquefied petroleum gas branch of the natural gasoline industry. The product of his research and imagination 30 years ago now is moving to market at the rate of 600,000,000 gals. per year. In addition to his outstanding work in this field he has made substantial contributions to the natural gasoline industry in his development of early gas test methods and in many other ways.

For many years after his connection with the Bessemer Gas Engine Co. he was in charge of natural gasoline operations for Mid-Continent Petroleum Corp. until the day of his retirement not many months ago.

Ladies and gentlemen, I give you the recipient of the Hanlon Award for 1943, as friendly and unassuming a man as you can find in this industry and one who has done much for it, Franklin P. Peterson!

◆ ◆

## Newly Issued Book Deals With Manpower Regulations

A digest of manpower rules and regulations, with particular emphasis upon those dealing with petroleum, has been issued by the Petroleum Industry War Council's Committee on Manpower.

The 32-page booklet outlines briefly the laws and executive orders relating to manpower, and the current interpretations of the rules and regulations issued by the Selective Service, War Manpower Commission, and other government agencies under these laws and orders.

Subjects covered include the Selective Service procedure relating to occupational deferments, the replacement schedule and manning table plans, wage and salary stabilization rules, the minimum 48-hour workweek, hiring controls, restrictions on transfer of workers, appeal procedures, and the manpower activities of the Petroleum Administration for War. The replacement schedule plan, which is called "the most effective means of dealing with Selective Service withdrawals," is described in detail.

Copies of the booklet may be obtained from the Council at 1625 K St., NW, Washington 6, D. C., for 10 cents each. Quantity prices will be quoted on request.

◆ ◆

## LP-Gas Heats Class Rooms And Shop In Air School

LP-Gas goes to war again—and this time at Southern Aviation of Oklahoma City, Okla., where it is being utilized in connection with the airport and training school for pilots south of the city, operated by George Hale, Jr.

According to W. L. Elkin, manager of the Butane Consolidated Gas Co. of Oklahoma City, a 350-gal. Hydro Gas system has been purchased. The installation is connected by 250 ft. of ¾-in. pipe. Two 60,000 Btu. Temco circulating heaters in the shops and two 40,000 Btu. Temco heaters in the classrooms are supplied by this equipment.

Four 24,000 Btu. Vita Ray radiant heaters were installed in the company offices.

# Readin' Writin' and Mass Production

Long ago, we learned our reading and writing. And now, with war accelerating progress, we're learning the latest about mass production. Yes, today we're readying the most advanced techniques of mass production so that, after the war, you will have Caloric gas ranges that will be, as before, leaders in the field.

CALORIC

**CALORIC GAS STOVE WORKS**

***PHILADELPHIA, PA.***

# THE BOTTLED GAS MANUAL

## Chapter 21

## Competing With Electricity

**Part I**

TONIGHT we have to analyze more statements made by the electric companies in reference to cooking and water heating. I have another enlightening booklet put out by one of the major electric appliance manufacturers.* Let's summarize what it has to say about us.

*The Charges Against Us.*

1. High installation cost of LP-Gas.
2. High operating cost.
3. Fire and explosion hazards.
4. High range conversion costs.
5. Limited life of gas equipment.
6. Expense of automatic burner lighting.
7. Questionable reliability of fuel supply.
8. Cooking disadvantages:
   - A. Soiled utensils.
   - B. Soiled kitchen decorations.
   - C. Overheated kitchens.
   - D. Low water cooking difficulties.
   - E. Baking and roasting disadvantages.

Let's dig into each one of these accusations and see what they are all about.

*High Installation Cost.* Much ado is made of the fact that the bottled gas industry makes an installation charge, but the gas equipment does not belong to the customer.† There are very few places in the United States where electric service is available from more than one source, and the electric companies are protected in their monopoly by franchises granted by states, municipalities, or towns. What if the customer does own the switchboard and fuse blocks in his cellar? They are worthless to him unless he is purchasing electricity from but one source; therefore, ownership is a doubtful privilege. By owning this equipment it is just his hard luck if anything goes wrong with it. Compare this with the policy of those bottled gas distributors who charge for installations but render

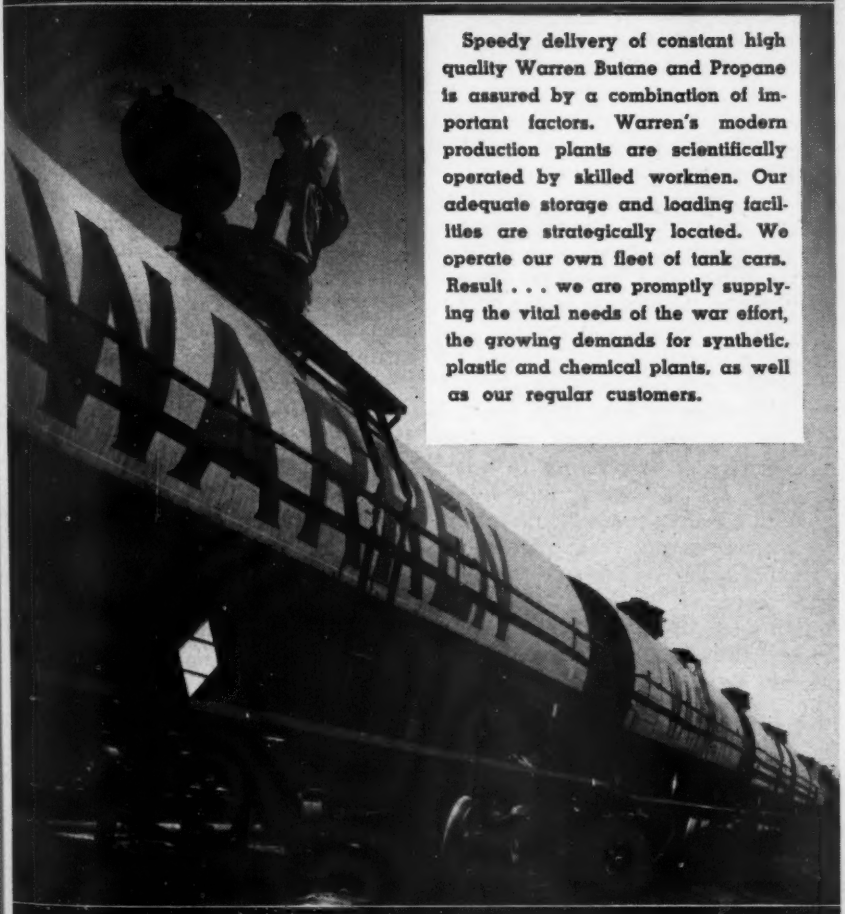
•

* Compare the Facts," a pamphlet published by The General Motors Sales Corp.

† This custom varies in different parts of the country. Some dealers make no installation charge at all and others have a minimum monthly gas rate that, over a period of time, partly compensates them for installation costs. In a number of localities customers are permitted to purchase the equipment, and, again, some dealers install on a straight rental basis. —Editor.

• The Bottled Gas Manual series by C. C. Turner, started in the July, 1941, issue of BUTANE-PROPANE *News* and will continue to be published monthly in chapter form until completed. This series constitutes a valuable text book and field manual that should be invaluable to everyone in the liquefied petroleum gas industry.—*Editor.*

# WARREN
## LIQUEFIED PETROLEUM GAS



Speedy delivery of constant high quality Warren Butane and Propane is assured by a combination of important factors. Warren's modern production plants are scientifically operated by skilled workmen. Our adequate storage and loading facilities are strategically located. We operate our own fleet of tank cars. Result . . . we are promptly supplying the vital needs of the war effort, the growing demands for synthetic, plastic and chemical plants, as well as our regular customers.

WARREN PETROLEUM CORPORATION

Tulsa, Oklahoma

service to the customer without additional charge just as long as the customer remains such. The distributor takes care of all repairs, replacements and improvements in equipment without expense to the customer.

As to the initial installation expense, it is hard to imagine anything cheaper than equipment furnished without charge, and this is the policy of some distributors who sell through metered service. Others make an installation and delivery charge of anywhere from $9.75 to $33.75, these figures including necessary piping inside of the house. If the electric boys did the same thing they not only would have to run the service to the house, connect it, furnish a meter, but also wire the interior of your house for all of the services that they render you. Needless to say, they don't.

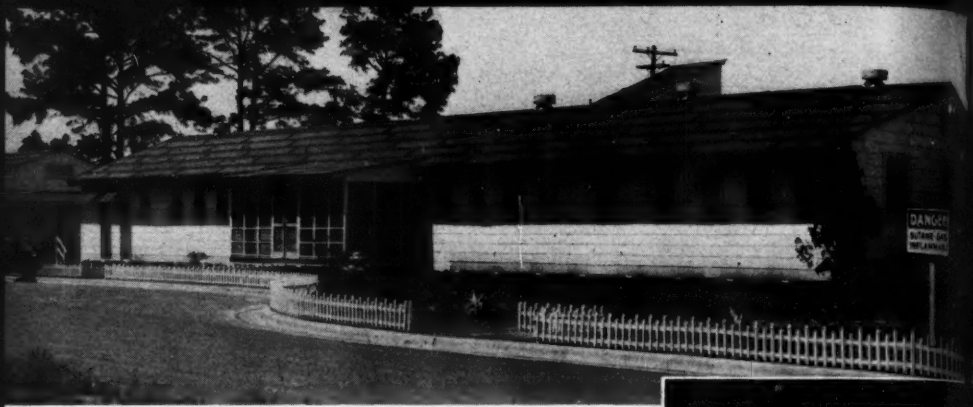
It is true that in many instances the electric service being installed in new homes today includes a 220-volt circuit for range operation, but don't forget that somebody pays for this, and it isn't the electric company! But how about the millions of American homes which are already wired for 110-volt service, but do not have a 220-volt circuit? Who pays for its installation in such instances? The customer does, and the charge is usually $30. They may convey the impression that you don't have to pay for this, but it is either included in the price of the range, or the rate paid for electric current is higher than it should be. Don't muff the fact that there aren't any Santa Clauses in the electric industry.

In the same blast directed at high installation costs is a statement that if the customer does not pay his gas bill promptly service may be discontinued and the equipment removed. By this do they mean that the electric companies are particularly considerate of the dead-beat? Just try letting the electric bill run any longer than the electric company thinks you should, and they will also cut off your service, and you will pay a reinstatement charge!

Another complaint is made about a gas customer having to pay another installation charge if he moves into another house or community. If his new abode is not already piped for bottled gas or served by the same gas distributor this is of course true—*and it is also true under like conditions with the electric companies.* In fact, if you move from a house that has 220-volt service into one that doesn't have this service, who pays for its installation in the second house? You do. I know many gas distributors who do not make any charge under like conditions!

*High Operating Costs.* I have previously said that my experience did not substantiate an energy exchange ratio of 3.52 kwh. to one pound of propane in domestic cookery as established by the American Gas Association and the United States Department of Commerce. The reason for this is that from the service angle my experience has been with electric ranges after they have been installed for some time, whereas competitive tests in the laboratories are always conducted

WHEN HER CHICKENS COME HOME TO ROOST
● She's buying War Bonds today, and dreaming about a happier day when those warbirds will come streaming home to a victorious America.
The War Bonds you urge her to buy now will give her the things she desires most in the future. At the head of her list you'll find a new Roper LP gas range. Yes, there's a great day coming—if we all do our part to help win the war.
Buy WAR BONDS Now
A ROPER LP GAS RANGE Later
It's important for her to take care of the gas range in her kitchen. It's important that she uses it wisely, makes it last, conserves fuel and saves the nutritive value of foods. Write for this Free sample booklet.
CARE and OPERATION of the new ROPER GAS RANGE
TOP-OF-RANGE DIRECTIONS
BROILING DIRECTIONS
OVEN DIRECTIONS
CANNING DIRECTIONS
GEO. D. ROPER CORPORATION
GENERAL SALES OFFICE AND PLANT: ROCKFORD, ILLINOIS
ROPER GAS RANGES FOR ALL GASES INCLUDING LP LIQUEFIED PETROLEUM GAS



LP GAS IS USED for preparation of meals and for laboratory work in the entire hospital area of this Flying School. Rego Equipment throughout; installation by Consumers Gas Co.

THE 1,000 MAN MESS [illegible] at the Flyi[illegible] dependably by LP Gas [illegible]go Equipm[illegible]

WAC BUILDINGS at the same base are provided with LP Gas and Rego Equipment for cooking and water heating.

Insure perfect performance and economy by insisting on genuine Bastian-Blessing products identified by the RegO trademark

REGO LP GAS EQUIPMENT

UL

The BASTIAN-BLESSING Co.

4233 Peterson Avenue Chicago, Ill.

Pioneers in equipment for using and controlling high pressure gas

# ★ PUTTING ON THE HEA

at the Flying School is served
go Equipment for all cooking.

Gas Company of Ge
ing School of th
ble of the vi
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ort.

REGO

ARMY (E) NAVY

BUY WAR BONDS FOR VICTORY

with new ranges. An important fact which is often missed by those who make comparisons between the two fuels is that electric heating units become progressively inefficient with use whereas gas burners do not. This is because of the fact that any metallic substance which is heated to incadescence or near-visibility protects itself with a scale of oxide. You are probably familiar with such a scale on a piece of iron which the blacksmith has heated in his forge. This very same kind of scale forms upon electric heating units, and it is an excellent heat insulator. It is not long before an electric heating unit loses 50% of its efficiency, and then its energy exchange ratio is on a parity with propane, or 6.34 kwh. to one pound. Figure competitively on the long-range use of both fuels and the electric range will be found to be far more expensive in operating cost.

But meet the electric range on the 3.52 ratio basis, and take the average United States price of 2.1-cent per kwh. in the cooking bracket. Propane could even then sell at 7.39 cents per pound on a break-even basis. Use a few of the electric tactics by insisting upon additional loads not related to cooking as being necessary in order to obtain such a rate and there is no question about gas being fully as cheap as electricity for domestic cooking. Furthermore, when the electric salesman tells about cooking with the current turned off, ask him where that heat came from. In actual practice not one in a thousand housewives will bother to do this, for it is too much like driving an automobile without any brakes, and this isn't exactly desirable. It can be done, but who wants to do it? Furthermore, there is a point below which you cannot "coast" in cooking by this method, and the heat used to raise the electric heating element up to this point is wasted. Remember, these electric cooking units have *weight* and plenty of it, and there is such a thing as *specific heats.* Better turn back to Chapter 3 and brush up on this subject!

*Fire and Explosion Hazards.* The National Fire Protective Association is an impartial body, having to do with fire risks on all sorts of fuels. Turn back to Chapter 20 and read over their summary of fire causes again. Nine and nine-tenths per cent of all fires being caused by electricity as against one-half of one per cent being caused by gas rather looks as if somebody else living in a glass house was again undressing in the daytime without pulling down the curtains!

*Range Conversion Costs.* Very few of the propane ranges in use are converted units, but to read the pamphlet in question one might think that the great majority of them are converted. Nothing is said of the fact that while 110-220 volts are the standard requirements of electric ranges, there are still some services in the United States that do not supply these voltages, and to convert an electric range in such instances requires c o m p l e t e new electric units. Doesn't it speak well for the flexibility of the gas range that with

# Have you sent for this simplified service manual on L-P Gas Refrigerators?

Satisfied customers today . . . mean more prospects tomorrow. And the way to keep your customers pleased is to see that their L-P Gas Refrigerators are working at top efficiency.

To help you get the best results from Servel Gas Refrigerators using liquid petroleum gas, Servel has prepared a new simplified service manual. This pocket-size booklet contains more than sixty indexed service hints on installation, adjustment, operation, maintenance, and operation analysis. These service facts are illustrated with over forty specialized photographs and drawings. There is also a complete section on specifications and parts data for all models of Servel L-P Gas Refrigerators.

Send today for your free copy of the new manual "How the Service Man Can Get the Best Results from the Servel Gas Refrigerator Using Liquefied Petroleum Gas." Just write to Servel, Inc., Evansville 20, Indiana.

## SERVEL, INC.

PEACETIME MAKER OF THE SERVEL GAS REFRIGERATOR

but very few exceptions it can be converted for any B.t.u. gas? I'd be glad to work converting gas ranges at $1 per burner, or $5 a range, if you could keep them coming to me as fast as I could convert them. Five dollars wouldn't buy even new conversion top units for an electric range!

Another blast is directed at the fact that new propane ranges cost more than their corresponding models in manufactured or natural gas appliances as sold by gas utility companies. Certainly they cost more, and they are worth the difference. In the first place, while propane ranges are gaining in popularity their volume has not yet reached that of those made for these other two gases. Changing a single step in mass production involves more expense than merely the parts involved, and for this reason manufacturers get and are entitled to receive more money for their propane ranges. Furthermore, the propane industry has adopted the sane policy of making its appliance business stand upon its own feet, independent of the fuel business. Perhaps I am letting the cat out of the bag in saying that if the electric companies followed the same policy the cost of electric energy to all of us would be considerably less, and perhaps dangerously competitive!

*Limited Life of Gas Equipment.* It is hard to imagine what our electric competitors mean in this respect. If it pertains to the gas equipment as we know it, namely regulators, cylinders, pig-tails and the like, they are made of cast iron, copper, synthetic rubber and alloy metals. Electrical equipment contains these same materials, the least durable of which is rubber in which electric equipment abounds. If our critic means *appliances* instead of "equipment" any comparison of lasting qualities definitely favors those manufactured for gas. Gas burners never deteriorate; electric heating units do. Gas cocks are of the tapered type, fitting tighter with each day of use providing they are occasionally lubricated. As against them the comparative electric switch has contacts which wear, corrode, pit, and eventually require replacement. Energy in the form of gas is conveyed throughout the gas range in steel pipes or metal tubes. As against this, energy within an electric range is conveyed through wires which are insulated with materials which definitely deteriorate and break down with age. Certainly the facts considered favor both gas equipment and appliances as to longevity!

*Automatic Burner Lighting Is Expensive.* What is behind this particular bit of mud-slinging? Certainly, the consumption of any type of energy in any form costs money, and we admit it. No mention is made of one condition peculiar to electricity that annually costs the American public millions of dollars. Turn off every appliance in your house at its individual switch, then go down and look at the electric meter. It will still be moving. Now pull the main switch between the meter and the outside, and the movement of the

# DALLAS TANK & WELDING COMPANY, INC.

# BUTANE DIGEST

By W. W. BANKS

These days we hear lots of talk on post-war planning and we believe that's all to the good. We're doing some post-war planning ourselves. Right now our energies are devoted largely to wartime production needs, but we know that the day is coming when John Q. Public will have his inning. We know that when peace does come the demand for Butane Systems, tanks and other fabrications will be tremendous. That's where our expanded manufacturing facilities will come in handy. We will have the organization, the mechanical, technical and engineering facilities to serve our customers better than ever before.

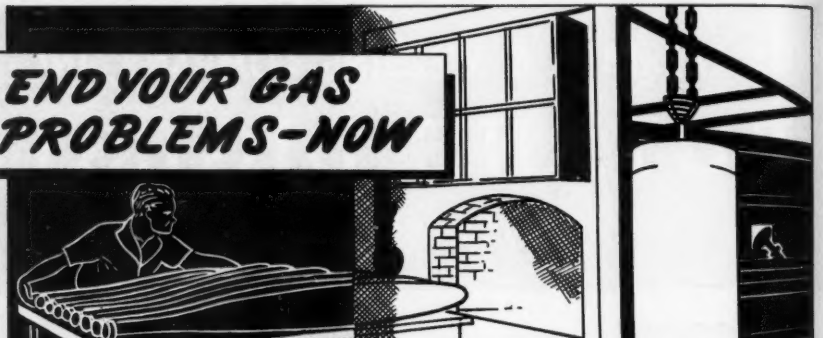
•

As we have pointed out before in this column, let's not forget the consumer now. Even though you may have little to sell him now, a friendly suggestion on how to get more service out of his present equipment will make it last longer, operate more efficiently and will pay good future dividends. Yes, and you're helping the war effort, too, when you make suggestions along this line. Steel and metal are precious things in times like these and they are vital for victory. Uncle Sam comes first with all of us, but when peace comes we'll be ready!

***Buy More War Bonds!***

DALLAS TANK
AND
WELDING COMPANY, INC.
201-5 W. COMMERCE ST. DALLAS, TEXAS

# END YOUR GAS PROBLEMS—NOW



PRODUCTION IS up—wherever Algas engineers have worked with industrial users of gas or gas utility companies to insure a constant gas supply.

Fuel provided by Algas installations—for either full time or stand-by operation—is used by hundreds of war plants in oven furnaces.

Algas designs and installs GASAIR Units, which will assume the entire fuel load should your piped gas be cut off. You may use Algas installations to enrich or supply extra piped gas. Or, in areas where piped gas is not available, these units will give you daily, 24-hour gas service. Economical and dependable!

ALGAS

Let Algas Solve Your Gas Problem

*Write for Illustrated Brochure*

**AMERICAN LIQUID GAS CORPORATION**

1109 SO. SANTA FE AVENUE • LOS ANGELES, CALIF.

meter will stop. Why is this? It is because of *leakage* in the electric wires in your home, and in spite of anything that you may do, you cannot stop it. You are paying for this, but if you had the same condition in relation to gas you would immediately call the gas company and complain of a leak. The cost of operating a pilot on any gas appliance should not be more than the cost of three pounds of propane per month, and you can definitely stop this expense for a *useful* purpose if you care to dispense with the pilot light. You *cannot* escape the cost of electric leakage within your home unless you pull the main switch when you are not operating lights and appliances, and this leakage serves no useful purpose. I think that we previously had something to say about people that lived in glass houses!

*Reliability of Fuel Supply.* Herein is a double-barbed dart directed at this industry, one of which questions uninterrupted service and the other implying moral irresponsibility of LP-Gas dealers. Better than 40% of the population of the United States lives in rural areas which are served for the most part by electric transmission lines with but a single source of power. A falling tree, a violent windstorm, a local flood, a flash of lightning—all of these are acts of God which can cause electric current failure. Man, in his haste, ignorance, or folly, can cause the same by crashing a car into a transmission line pole, overloading a transformer, throwing the wrong switch in a power house or making a wrong connection. Any one of a multitude of insulators, wires or joints distributed over many miles of transmission line may fail because of defect or injury, thereby paralyzing the lighting, cooking, refrigerating, water and space heating of not only one home but those of an entire community.

Compare this myriad of potential causes of energy failure in an electric power system to the very few and remotely possible ones in an individual LP-Gas system. Give consideration to the thought that it is not practical to store electric energy upon the premises against the time of emergency. Realize that the failure of an LP-Gas system affects but one family, whereas electric failure inconveniences and jeopardizes a thousand families. This vaunted advantage of electricity over LP-Gas becomes a fallacy, and its very collectivism in time of war makes it a liability instead of an asset.

Grant that LP-Gas service may be interrupted because the customer forgets to order gas. The same holds true of his coal bin, wood bin or pantry shelf. The gas system with its reserve supply of fuel on the premises permits little possibility of service failure because of lack of fuel. This reserve supply permits the dealer time in which to surmount or go around the very service obstacles which knock out electric service.

As to the moral responsibility of LP-Gas dealers in comparison to that of the electric companies. I can think of many changes which have been made in the bottled gas

industry for economic reasons, and in no instance has there been a case of the customer necessarily suffering for lack of service. This is because our industry *is competitive,* and may it ever remain so! In fact, I can think of many instances where our distributors and dealers have continued to render an *unprofitable* service because of the *moral* obligation involved.

*Cooking Disadvantages. Soiled Utensils.* The fellow who wrote that pamphlet certainly didn't know much about the characteristics of propane combustion. In countless laboratories throughout the United States the alcohol flame is used for operations where a carbon deposit would be objectionable —and propane burns, with proper adjustment, like an alcohol flame! Surgical instruments are sterilized in the alcohol flame, and recently laboratory installations for this same purpose have been made with propane as the fuel! Tonight I have a boy sick in one of Maine's great hospitals, and I happen to know that the instruments used to operate upon him were sterilized in a *propane* flame. If propane is clean enough for the modern medical laboratory, and safe enough to be used for sterilization purposes, in preference to electricity, certainly it is suitable for madam's kitchen range!

*Soiled Kitchen Decorations.* A "must not" of the electric industry is that an oven must not be connected to a flue or vented. Why? Because precious heat units must be conserved. I can't see why a broiled steak at 550° temperature won't smoke just as much if the heat is electrically applied as it will if it is applied by gas. Perhaps some Einstein will come forward and enlighten me as to the relative sticking powers of plain grease as it is distilled from a steak by electric vibratory impulses as against the combustion of liquefied petroleum gases. The fact remains that it is desirable to vent gas ranges and *not* desirable to vent electric ranges. It would seem only logical then that the gas range would be less guilty of defiling kitchen decorations.

*Overheated Kitchens.* Let's place ourselves in the least favorable position and accept for the moment an equality of energy exchange of 3.52 kwh. to one pound of propane. This means 12,010.24 B.t.u. as against 21,633, a difference of 9622.76 B.t.u. Where is all of this heat going, and where must the majority of it be absorbed? In the kitchen, of course, but if one can vent 9622.76 B.t.u. in one instance and can't vent any of it in the other, where is the vaunted difference in kitchen temperatures?

*Low Water Cooking Difficult.* A gas burner can give any degree of heat desired, and is much more flexible than an electric heating unit, even at low temperatures. The American housewife lives in a chemical laboratory of which she is the undisputed mistress.

The gas range offers women a flexibility from the lowest to the highest of desirable temperatures not obtainable in the electric range. Bring this thought out when you are selling a gas range, and you

# TAPPAN'S on the Grapevine!

**Tappan Ranges may be off the assembly line, but they're on the grapevine! And we can *prove* that more women buy Tappans because of "grapevine" recommendations from friends than for *any other reason!***

You can help *keep* Tappan on the grapevine by offering your customers the TAPPAN "OWNER'S GUIDE" on care, adjustment and use of their ranges. Remember that every satisfied Tappan owner becomes a "grapevine" salesman! (We're telling American women about this handy book—*and* about Tappan Ranges—in our national advertising.) Order a new supply of "Owner's Guides" today from

THE TAPPAN STOVE CO.
Mansfield, Ohio

***P.S.—And don't forget WAR BONDS! Urge customers to buy Bonds today—earmarked for a Tappan tomorrow!***

for High Achievement

*Write about the possibility of a postwar Tappan Dealer franchise*

**TAPPAN** *Ranges*

won't have much difficulty in convincing your prospect.

*Baking and Roasting Disadvantages.* I quote:

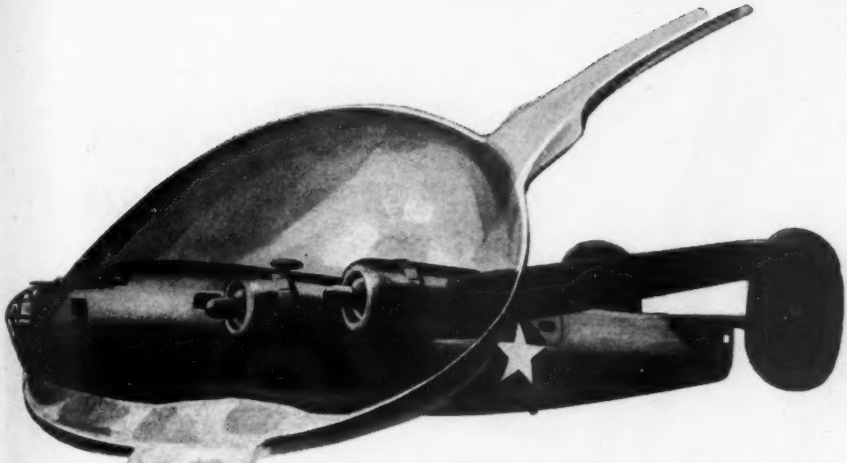
> "Because a constant draft of fresh air is needed in the bottled gas oven, covered roasters must be used and frequent basting practiced in order to prevent roasts from drying out."

This seems to be the only argument made in favor of electric oven cookery, and its childish inconsistency is such that it would hardly seem necessary of refutation. The charge seems to be that electric ovens are hermetically sealed whereas gas ovens are not. Grant that an electric oven *may be* hermetically sealed, a covered roaster certainly approaches as near to being such as does the electric oven. Do the distilled juices from a roast automatically fall back upon the roast by some magic formula, and in which would you expect this the most likely to happen—a covered roaster or an electric oven? Perhaps the answer to this lies in the "sweating" of electric ovens and the advice given to all electric range owners that they should leave the oven open after cooking in order that "condensation within the oven may evaporate." Where did this condensation come from? Certainly not as a product of combustion, for there has been no combustion as we know it. It must have come from the foodstuffs, and it is, therefore, hard to imagine the necessity of basting a roast in a roaster designed to return such products to the roast when the electric oven offers a far greater possibility of such moisture falling back anywhere but on the roast itself!

*Our Seven-Fold Advantages Still Stand.* Back in Chapter 1 we enumerated the seven general advantages of propane as being: Dependability, Safety, Cleanliness, Flexibility, Speed, Economy and Ultra-Modernism. These seven advantages are particularly true in the cooking field. It is a very significant fact that although electricity is and has been available to commercial cooking establishments for many years, 90% of them stick to gas, and put in gas appliances when they modernize their plants. These enterprises are headed by practical business men whose profits are in fractional pennies earned by the excellence of their products. There must be a reason for this preference for gas, and it might be well to catalog the commercial cooking establishments in your territory as to the fuel used. Show this to Mrs. Prospect and let her draw her own conclusions as to the reasons why!

*Electric Water Heating.* The policy of the electric industry in reference to water heating is not a consistent one. In some localities this business is actively solicited. In other places it is definitely not wanted. The most common practice is to solicit it on the so-called "off-peak-load" basis.

*"Off-Peak" Water Heating.* In order to understand what this "off-peak" proposition is we should really take time to discuss some of the handicaps under which the electric industry operates. No practical method of storing electric energy in commercial quantities has yet been devised. Because of this the capacity of electric generating



"Baste Frequently!" We here at Robertshaw are giving that well-known cooking term a wartime meaning. To us, "Baste Frequently" means Baste the Axis—early and often.

# "Baste Frequently"

And that's just what we're helping to do. From our years of experience in making precision devices such as thermostats, we've turned to the production of precision instruments for aircraft—devices our fliers are using this very minute to "Baste the Axis." And to help our boys "Baste Frequently," we're also producing fuses for hand grenades, primers and ignition cartridges for rockets, as well as boosters and shells for aircraft and anti-aircraft guns.

And with it all, you'll still find a few Robertshaw Thermostats coming off our production lines. They're only for Government projects though—thus keeping our hand in practice for peacetime requirements when that grand day arrives.

*For High Achievement in the production of war equipment*

ARMY E NAVY

**ROBERTSHAW**

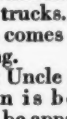
ROBERTSHAW THERMOSTAT CO., YOUNGWOOD, PA.

# Tank Track Pins that HELP THE VICTORY DRIVE

A tank track is no stronger than its pins. And it is the privilege of Lindemann & Hoverson to produce tank track pins that meet the exacting requirements of Uncle Sam.

Sheet metal workers of this pioneer stove manufacturing organization are also making steel cases for electrical controls, truck tool boxes and metal containers for bomb parachutes. Small shells for anti-aircraft are among L&H wartime products. Air compressors are assembled and mounted on U. S. Army trucks. And from L&H looms comes cartridge belt webbing.

In thus serving Uncle Sam, a new precision is being achieved that will be apparent in improved L&H post-war products. In your plans for peace, keep L&H in mind. It will be a good line to tie to.




L&H

## A. J. Lindemann & Hoverson Co.

MILWAUKEE • *Since 1873* • WISCONSIN

KEROGAS MANUFACTURERS OF ELECTRIC RANGES ELECTRIC WATER HEATERS GAS RANGES. OIL STOVES . PORTABLE OVENS . OIL HEATERS...WICKS ALCAZAR

plants must be great enough to take care of the load demand upon them at any time. Our habits of eating three meals a day at specified times and of turning night into day cause peak load conditions between the hours of 7 and 8:30 in the morning, 11:30 to 1:30 at noon, and 5:00 to 11:00 o'clock at night. In between these peak hours the giant generators at the power houses loaf along with partial loads. It would be a great thing if they could be worked to capacity all of the time, so the "off-peak" water heater is offered to electric consumers at attractive energy rates.

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*(Part 2 of Chapter 21 of The Bottled Gas Manual will be published in the October issue of* BUTANE-PROPANE *News. It will contain the Questions and Answers for the entire chapter.—Editor.)*

◆ ◆

## Engines Will Be Available If For Petroleum Industry

Deputy Petroleum Administrator for War Ralph K. Davies has announced that distributors who supply petroleum industry operators will be assured delivery of internal combustion engines if orders are placed six months or more in advance of the date the engines are required for use.

Engine distributors are requested to anticipate now the needs of their petroleum industry clients for different types, sizes and models of engines. Then, the distributors should apply for the required number of engines by filing PD-1X applications by calendar quarters, commencing with the fourth quarter of 1943. Applications should be forwarded to the WPB and should indicate clearly that the engines are required for use in the petroleum industry. One copy of each PD-1X application should be sent to the Materials Division, Petroleum Administration for War, Interior Building, Washington, D. C. (25).

When an operator requires an internal combustion engine to meet an emergency, and such is not available under the normal procedure, relief may be obtained by applying directly to the PAW.

◆ ◆

## ODT Issues Auto and Truck Maintenance Pamphlet

How to preserve vital automobile and truck parts, including fuel pump shafts, clutch parts, transmissions and valve stems, is told in an ODT pamphlet now available for distribution at ODT district offices, J. Roy Willhide, district manager of ODT's Division of Motor Transport states.

The pamphlet, which is called "Hard-surfacing Applications and Techniques," contains detailed instructions with illustrations on methods of strengthening parts and was prepared by the Society of Automotive Engineers in cooperation with the Vehicle Maintenance Section of ODT.

◆ ◆

## More Water Heaters May Be Made If Materials Available

General Limitation Order L-185 as amended July 28 provides that for the fiscal period to June 30, 1944, manufacturers may deliver direct-fired water heaters on a priority of A-10 or higher up to 65% of their 1941 unit production.

This means that manufacturers may now, after fulfilling the requirements of higher priorities, provide water heaters for civilian use. Stumbling block in the way of increased production is the shortage of materials, thermostats in particular.

## LP-Gases May Be Moved Without Special Permits

The Office of Defense Transportation now prohibits the use of tank cars for the movement of any commodity not included in the list designated by WPB as essential to the war unless such movements are specifically authorized by ODT permits. This restriction is contained in Special Direction ODT 7, Revised 1.

Beginning July 31, ODT requires that tank cars be loaded to certain specific standards of capacity except as may be specifically allowed by ODT permits. This requirement is issued by Special Direction ODT 7, Revised 2.

Among the items, of interest to the LP-Gas industry, in the list of commodities which may be moved in tank cars without ODT permits are the following:

Isobutane; isobutylene; *butadiene; **butanes; **liquefied petroleum gases; **propanes.

Commodities marked "*" are subjected to the provisions both of this Special Direction and of Haulage Conservation Order T-1, as amended, issued by the War Production Board. Commodities marked "**" are subject to the provisions both of this Special Direction and of such orders of the Petroleum Administrator for War as may designate the quantity and kind of petroleum to be shipped and received by those engaged in the petroleum industry.

◆ ◆

## PAW Decentralizes District 3 With D. E. Buchanan in Charge

Establishment of the District 3 office of the Petroleum Administration for War on a decentralized basis under the direction of D. E. Buchanan, was announced Aug. 5 by Deputy Administrator Ralph K. Davies.

Under the decentralization plan, the District 3 office at Houston, Texas, will serve henceforward as PAW's primary point of contact with the petroleum industry in that district, which embraces the states of Texas, Alabama, Mississippi, Louisiana, Arkansas, and New Mexico.

The effect of the delegation is to give Mr. Buchanan authority to deny and grant exceptions to PAO No. 11 in a wide variety of cases, all of which are set forth in the delegation. The result will be to eliminate the necessity for reference of applications for exceptions to Washington and thus expedite their processing.

Mr. Buchanan, up to now, has been serving both as Director of Natural Gas and Natural Gasoline in District 3 and as Director-in-Charge of the District 3 office. Henceforward, he will devote his full attention as Director-in-Charge, to the supervision of all PAW activities in the Southwest.

Mr. Buchanan's successor as Director of Natural Gas and Natural Gasoline has not yet been appointed.

◆ ◆

## Standard (N. J.) Completes Fifth Butadiene Plant

Completion of all its commitments for the construction of butadiene plants at its Baton Rouge, La., refinery, for manufacturing raw material for Buna S synthetic rubber, was announced late in May by the Standard Oil Co. (N.J.), when the fifth plant at Baton Rouge was put in full operation.

These five butadiene plants have an annual capacity sufficient to make several millions of automobile tires.

The plants employ two types of process for manufacturing butadiene—one process by which butadiene is made by straight cracking of oil and the other a process of making it from a refinery gas called butene.

# Need ENGINEERING assistance?

**When time** is of the essence, why struggle with problems involving heat applications, when there is a trained and fully staffed engineering force who are specialists in this field. ☆ These men are thoroughly conversant with all commercial and industrial applications of heat . . . whether it be space heating, drying, cooking, burning, baking, material heating. It makes little difference whether you need a small hand torch or the complete design and erection of a Butane power or standby plant — our engineers are ready to serve you with production equipment when possible, and with special designs when necessary. ☆ Your inquiries are invited.

## RANSOME COMPANY

***Designing and Constructing Engineers***

**4030 HOLLIS STREET · EMERYVILLE, CALIFORNIA**

Ransome

# ENSIGN

## BUTANE-PROPANE CARBURETORS

## *Working for Victory*

**ENSIGN Butane-Propane Carburetors are playing an important part in the Victory effort. We are proud of this fact and are devoting our modern facilities and long experience to the successful completion of this assignment. Helping to win the war is our chief duty at this time.**

## *But still available*

## ON THE HOME FRONT

**However, ENSIGN Carburetors for Butane-Propane and Gasoline are still available for uses not directly connected with the war effort. It may take us a little longer than usual to supply the demand for carburetors, but quick delivery of emergency parts is assured. Now, as always, ENSIGN is unequaled for efficient and economical carburetion.**

# ENSIGN

**CARBURETOR CO., LTD.**

**HUNTINGTON PARK • CALIFORNIA**

***Before ordering ENSIGN Butane-Propane Carburetion Equipment or Parts, read W.P.B. General Limitation Order L-86. Copies can be obtained from your nearest W.P.B. office.***

**Bulldozer and 20-cu. yd. side dump truck at site of Santa Fe flood control dam, Los Angeles county, California.**

# *Massive Dam Trucks Use LP-Gas*

THE importance of butane for internal combustion engine fuel in heavy duty equipment has been importantly demonstrated in the building of the Santa Fe dam near Azusa, Calif.

**COL. R. W. PUTNAM**

There, in a huge flood control project which has seen the handling of nearly 11,000,000 cu. yds. of earth, butane has played a dominant part, supplying power for the immense dump trucks, shovels, tractors, bulldozers and other equipment that, since Aug. 8, 1941, have borne the blunt of excavating for the dam site and supplying the fill material—dirt, rock and concrete—that has contributed to the now almost completed structure.

Among the units are 13 Maxi 20-cu. yd. side dump trucks with Hall Scott Model 160-1 engines, all using Ensign carburetors and complete butane changeover equipment.

All of the work has been under the supervision of the Corps of Engineers, U. S. Army, directed by Col. Rufus W. Putnam, District Engineer, whose headquarters are in Los Angeles. The general contractor is Morrison-Knudsen Co.,

3693
BUTANE

Inc., of Los Angeles, with R. F. Rasey serving as project manager. Operation of the dam will remain in the hands of army engineers.

**Will Protect Valuable District**

The Santa Fe dam spans the San Gabriel river where it forks to form the Rio Hondo. Its objective is the protection of a vast, rich farm, industrial and residential area stretching from the foot of the Sierra Madre mountains to the Pacific ocean. It comprises an area of 1250 acres. The spillway will be 1200 ft. wide at its elevation of 496 ft. The top of the dam is 513 ft. above sea level. The dam will impound 33,000 acre feet of water and the total cost, borne entirely by the government, except for the value of the lands which are owned by Los Angeles county, will be approximately $10,500,000. It is now 93% complete, final work being delayed because of more direct war needs for the required steel for the control gates. When these are ready to install, 600,000 cu. yds. more of rock and 19,000 cu. yds. of concrete will have to be handled.

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**OPPOSITE PAGE—TOP: Placing concrete in spillway structure. BOTTOM: Fueling a side dump truck with butane.**

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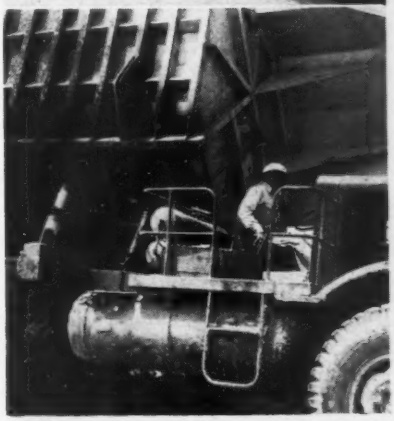
**TOP: A 20-cu. yd. side dump truck ridding itself of load of 6-in. rock. CENTER: Shovel loading 12-cu. yd. end dump trucks with borrowpit material. BOTTOM: The butane installation on one of the 20-cu. yd. side dump trucks.**



## W. C. Leahy is Now With Dallas Tank & Welding Co.

W. W. Banks, president of Dallas Tank & Welding Co., Inc., Dallas, Texas, announces that he has acquired the services of W. C. (Bill) Leahy who will serve as general superintendent, in charge of all production at the Dallas plant. Mr. Leahy was with the Wyatt Metal & Boiler Works, Dallas, for the past 23 years.

W. C. LEAHY

Due to increased production of war materials, Dallas Tank & Welding Co. has found it necessary to again increase its factory space. The largest building has been extended to the west 100 ft., giving it an area of 270 ft. by 92 ft. It is equipped with one 5-ton and one 10-ton electrically operated overhead cranes, and is devoted 100% to the manufacture of one vital item for the navy. All other buildings are used for the manufacture of essential defense items.

A railroad spur has just been completed into the west end of the company property 521 ft., and extending into the new building a distance of 100 ft.

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## Petroleum Products Producers Get New Ceiling Regulation

Producers of crude petroleum as well as producers of petroleum and natural gas were provided by the Office of Price Administration Aug. 14 with a new and simplified regulation for the determintaion of their ceiling prices. No changes are made in the general price structure by OPA.

All sections dealing with ceilings of these products have been removed from revised price schedule No. 88 (petroleum and petroleum products), and, after being brought up-to-date and simplified, have been embodied in the new regulation, maximum price regulation No. 436 (crude petroleum, and petroleum and natural gas), effective Aug. 19, 1943.

◆ ◆

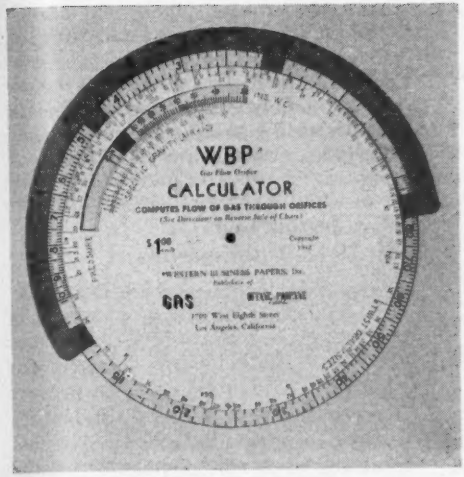
## Buyer's Guide for Stampings And Tank Heads Issued

To aid purchasing departments in placing orders for tank heads, standard steel shapes, and medium and heavy stampings, "The Little Hand Book" has been published by the Commercial Shearing & Stamping Co., of Youngstown, Ohio.

While guides and catalogs have been issued by the company in the past, too often these have been of greatest value to designing engineers, shop foremen and other experts and have not contained in quickly usable form the detailed information that a buyer needs when filling out purchase orders.

To aid all buyers of their products, whether they be technicians or laymen, the Commercial Shearing & Stamping Co., has listed its products and given the terms to use in orders that should avoid confusion, simplify the buyer's difficulties and result in faster, more accurate shipments. This is particularly true when a purchaser intends to adapt a standard product of the manufacturer to some particular application of his own.

"The Little Handbook" is divided into chapters which tell of its purpose, the policies and aims of the company, full details of tank heads and tank accessories, standard steel shapes, stampings, and a group of handy, valuable mathematical tables and formulas. It will be mailed free upon request to those desiring it.




# NEW GAS FLOW ORIFICE CALCULATOR

**Invaluable to LP-Gas Engineers, Shop Men, Domestic Appliance Service Departments, LP-Gas Appliance Manufacturers, and All Others Who Need to Check or Determine LP-Gas Orifice Sizes.**

- **Easy to Use and Carry**
- **No Need for Calculations**
- **No Reference to Tables**
- **Just Set Scales and Read**

**Ever had to convert an appliance from manufactured or natural gas to LP-Gas and needed to know what orifice size to install? Ever had to estimate how much gas a burner could handle? Ever had to convert B.t.u. per hr. to cu. ft. per hr., or vice-versa? Ever had to know the B.t.u. input load of an appliance or industrial burner? With the Gas Flow Orifice Calculator you can quickly and accurately work out all these and many other problems.**

**Checks all factors relative to orifice sizing for gases from 300 B.t.u. to 3300 B.t.u. at pressures from .5-ins. to 15-ins. water pressure. Determines the flow of orifices from sizes 1 to 75 number drills, from sizes A to Z in letter drills, and from sizes 2/64 to 32/64 in fraction drills.**

**Priced for quantity purchase to enable you to obtain a sufficient number for everyone in your organization concerned with orifice sizing. Privilege to return within 10 days, for any reason, further assures your satisfaction. We pay postage on orders accompanied by remittance. Add 2½% sales tax on California orders; 10% excise tax on Canadian orders.**

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## ORDER TODAY . . .

**BUTANE-PROPANE News, Publishers**
**1709 West 8th Street, Los Angeles 14, Calif.**

**SPECIAL OFFER**
**25% DISCOUNT ON ALL ORDERS OF 25 OR MORE.**

**$1.00 EACH**

**Gentlemen: Please send me.....W.B.P. Gas Flow Orifice Calculators for which I am enclosing my check (or money order) for $.....**

**Name**.....**Position**.....

**Company**.....

**Address**.....**City and State**.....

## If Men Must Go, U. S. Engineers Offer Wide Field of Service

Men who are now in Class 1-A and those about to be reclassified into 1-A have excellent opportunities to contribute importantly to the war effort and at the same time continue in technical and semi-technical work that has engaged them in the past.

The Corps of Engineers, U. S. Army, is in great need of skilled men for numerous positions on construction projects and those who qualify will be listed for a specialist rating and assignment, according to C. G. Beardslee, director of public relations of the Los Angeles office. He believes this should be of special interest to men in the liquefied petroleum gas industry for there are many projects where LP-Gas is being used in one form or another, and acceptance by the Corps of Engineers may enable them to broaden their experience.

Those who are from 18 to 38 years of age and are now 1-A or about to be reclassified as 1-A can be voluntarily inducted into the Engineers, and those 38 to 50 can enlist. Only American citizens are eligible.

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## AGA Issues List Of 1943 Publications

The American Gas Association has recently issued its list of publications for 1943. The list gives titles, authors and costs of studies made under the general headings of accident prevention, accounting, general, industrial and commercial, natural gas, industrial gas research, residential, statistical, technical, testing laboratories.

Copies may be obtained from the association headquarters, 420 Lexington Ave., New York City.


**TiteSeal** holds Butane, Propane and ALL of the LP Gases

**"After trying every other compound for leak-sealing Propane pipe joints I tried *TiteSeal*—and have used *TiteSeal* exclusively since, in our plant and installation work."**

***John MacIntosh, Engineer***
***Rulane Gas Co.,***
***Charlotte, N. C.***

**Brush-On TiteSeal**
A "natural" for gas plant maintenance, installation or service work. MacIntosh uses Brush-On TiteSeal. Packed in 4 oz., pint, quart and gallon containers.

Write For FREE SAMPLE
Prove to your own satisfaction that TiteSeal will end your leak troubles.

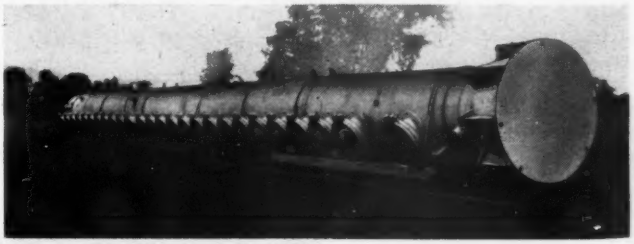
TiteSeal
DIVISION OF

Leak-Proof
Heat-Proof
Non-Hardening

RADIATOR SPECIALTY COMPANY
LOS ANGELES CHARLOTTE, N. C. TORONTO

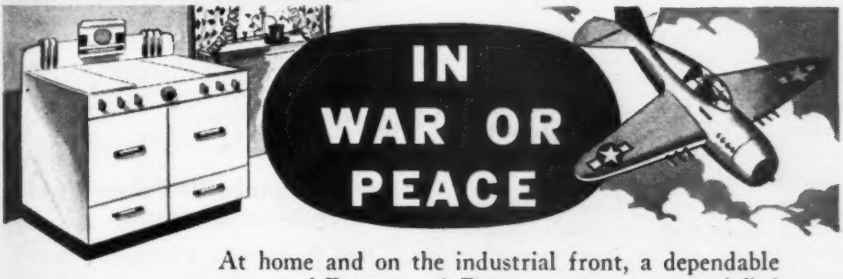
# SPECIALISTS in design and fabrication of PROPANE TANKS

When you're faced with a difficult fabrication problem—consult Downingtown's engineers. Not only does safety depend upon you fabricator's specifications for materials, and choice of procedure in handling them . . . but extensive propane experience such as Downingtown's can be a time-saving, money-saving, asset! Other divisions of the oil industry are also served by Downingtown, as illustrated by the tower shown below.



DOWNINGTOWN IRON WORKS
DOWNINGTOWN, PA.
WELDED and RIVETED PRODUCTS

Side view of special fabrication approved by A. P. I. and A. S. M. E.




At home and on the industrial front, a dependable source of Butane and Propane means more satisfied customers. For more than fifty years, through wars and in peace times, Carter has faithfully served. Write our Marketing Department for higher quality Butane and Propane.

The CARTER Oil Company

DEHYDRATED PROPANE • BUTANE

WHOLESALE ONLY

TULSA, OKLAHOMA

## Robertshaw Kitchen Charts Will Aid Commercial Cooks

Shortage of experienced help, almost daily labor turnover, inefficient operation of equipment, and consequent waste of food and fuel are problems which have prompted constructive action in the form of an educational program launched by the Robertshaw Thermostat Co. for the benefit of harassed kitchen operators. As explained by W. D. Crouch, manager of Robertshaw's industrial and commercial division, the program comprises five complete, but simple and understandable charts covering the correct operation of thermostatically equipped roasting and bake ovens, deep fat fryers, coffee urns and steam tables using liquefied petroleum, natural and manufactured gases.

The baking chart explains the correct use of the popular multiple deck and sectional bake ovens; also, how to maintin correct temperatures through use of heat controls.

The deep fat frying chart gives complete instructions on care of cooking fat to prevent overheating and scorching during heat-up and cooking periods. Time and temperature tables for most items on daily menus are included in these charts.

Nine extra cups of coffee from each pound is a possibility, it is claimed. The chart on coffee brewing and proper operation of heat-controlled urns tells how—at a saving of fuel, too. Correct steam table temperatures for keeping food in best condition over periods of time, and heating hints to reduce operating costs are presented in the steam table chart.

The Robertshaw charts are 10 x 15 in. in size, printed in two colors, varnished for durability, punched for easy hanging and have been compiled from authoritative information. A slight charge is made toward cost of production, handling and mailing. Companies desiring information about sets for distribution to their commercial customers should address Robertshaw Thermostat Co., 30 Church St., New York.

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## Former PD-397 Forms Changed to WPB-809

Standardization of War Production Board data requests into one series only "WPB" was started on May 22. This means that all "PD" and "UF" forms and letters will be cancelled as such and will be reissued in the "WPB" series, as will also some of the "CMP" forms and letters.

Forms with the old number are not obsolete, and may be used up until the expiration date. Both the old and new numbers will be carried on the Form for several months, to allow time to become familiar with the new numbers.

War Production Board field offices will stock all "WPB" forms and letters. Therefore, applications for authorization to install liquefied petroleum gas equipment should be filed on WPB-809 forms.

◆ ◆

## Ray B. Fannin Broadens Field In Five Western States

Ray B. Fannin, who has been selling LP-Gas equipment in Colorado for a number of years, has been made representative of the Gasair Corp., of San Francisco, in Colorado, Wyoming, South Dakota, Nebraska and Kansas, and hereafter will sell standby and town plants in those states, according to John K. Heller, president of Gasair.

Mr. Fannin's first large installation was for the city of Watertown, S. D. (See Page 58, July, 1943, issue of BUTANE-PROPANE *News*.)

# HUMPHREY PRODUCTS...

## take to the AIR

Today . . . the men, machines and engineering skills of our company are making many precision parts for Aircraft. Tomorrow . . . this same precise, high quality workmanship will be reflected in even finer Humphrey Radiantfires, Circulators, Unit Heaters, Gas Lamps and other Humphrey Products.

A HUMPHREY PRODUCT

REMEMBER THIS MARK OF QUALITY

**GENERAL GAS LIGHT CO., Kalamazoo, Mich.**

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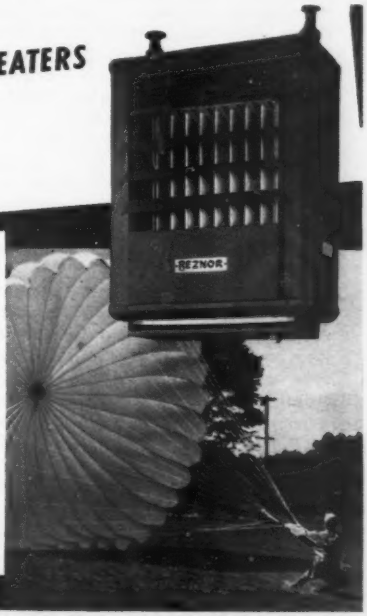
## WHAT HAVE REZNOR UNIT HEATERS TO DO WITH PARACHUTES?




***They Help Our Boys Make Safe Landings***

At one of our Air Bases, thermostatically controlled Reznor Gas Fired Unit Heaters solved the problem of drying parachutes, which are washed and tested after each jump. Operating 24 hours a day the year around, they are used in conjunction with a de-humidifier and a cooling unit to force strong currents of either heated or cooled air (as required) through the parachute loft. You can depend on Reznor Units for space heating or product drying because they move more air over wider areas at accurately controlled temperatures. Write for literature.

**REZNOR MANUFACTURING CO.**
301 JAMES STREET MERCER, PENNA.

"GAS HEATERS EXCLUSIVELY SINCE 1888"

# ALLIED FOR

# VICTORY

## SINCLAIR LP-GASES

To beat the Axis, we must have a lot of things in quantities never produced before in places seldom heard of. Important among these needs are 100-Octane Aviation Gasoline for Flying Fortresses, better motor fuel and lubricating oil for trucks, tanks, jeeps and ambulances, for mosquito boats and naval craft; better fuel for furnaces and ovens, for tractors and engines—for innumerable military, industrial and home uses.

Meeting all these requirements are two important "allies" of the United Nations—Butane and Propane, those vital Sinclair Liquefied Petroleum Gases. Available to meet this demand are the production and marketing facilities of Sinclair, one of America's pioneer integrated petroleum companies. Yet we are taking care of the needs of our regular industrial and domestic customers.

*Protect your fuel requirements by contracting with*

**SINCLAIR PRAIRIE OIL COMPANY**

Liquefied Petroleum Gas Division
Sinclair Bldg. Tulsa, Okla.


## P-100 Is Revoked Again by WPB

Preference Rating Order P-100, dealing with maintenance, repair and operating supplies, has been completely revoked, the War Production Board announced June 26.

This order previously was revoked as of April 2, except as to producers in Canada, to whom a serially numbered copy had been issued. Canadian companies are now eligible to apply through the Department of Munitions and Supply, Ottawa, Canada, to the War Production Board for authorization to use the procedures established under CMP Regulation No. 5 to obtain their necessary maintenance, repair and operating supplies.

As a result of this eligibility, WPB has revoked Preference Rating Order P-100 completely.

As far as the LP-Gas industry is concerned, it comes under No. P-98-b.

Records of maintenance, repair and operating supplies may be kept on the basis of supplies received, rather than the amounts ordered in any quarter, the WPB announced June 29.

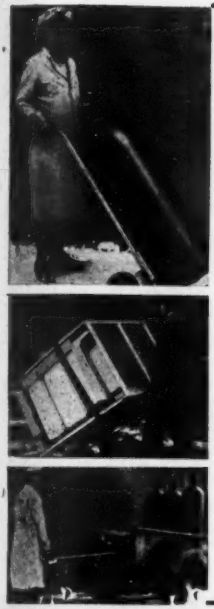
Although quantity restrictions under CMP Regulation No. 5 are on an "order" basis, if a person prefers to compute his expenditures on a "receipt" basis, he may do so, according to Direction 8 issued today. However, the use of one method for part of the supplies and another method for the rest is not permissible.

◆ ◆

## General Water Heater Owner, Ralph Hinckley, Meets Death

Ralph Hinckley, owner of the General Water Heater Corp., of Burbank, Calif., was killed Aug. 17 when he was thrown from his horse on a Los Angeles bridle path.

Mr. Hinckley was 69 years old and resided in North Hollywood.

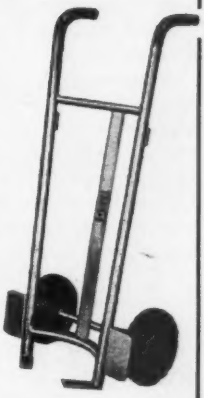


# THOMAS highly useful
# DOUBLE DUTY HAND TRUCKS

An all purpose, one man truck for moving both cylinders and appliances. No more back breaking lifting, either. Tapered body gives operator ample room between handles.

Cradle construction accommodates any size cylinder up to 100 pound capacity. Wide Bottom flanges give support for appliances. Web strap (optional) holds appliance rigidly.

Rounded handle grips permit skidding from end of delivery truck. Time saving, labor saving, cost cutting.



**Write for prices and descriptive folder.**

**Thomas Truck & Caster Co.**

**4387 Mississippi River Keokuk, Iowa**

# L.C. RONEY, INC.

**meets the demands of the nation. Our plant has gone to war for the duration — but when peace comes, L. C. RONEY products for the LP-Gas industry will meet the demands of dealers everywhere. In the meantime—our stock of LP-Gas equipment is still complete.**

**L.C. RONEY INC.**
1960-44 • 59th ST. • LOS ANGELES, CALIF.

# Safety
## costs most

**WHEN YOU SHOULD HAVE HAD IT!**

**Rochester Gauges are especially designed to prevent danger and fuel waste in LP-Gas Systems.**

**Their vapor-tight safety features are approved by Underwriters' Laboratories and listed as standard for all LP-Gas Systems.**

**Decide on safe gauging. Specify a Rochester Gauge. Rochester Mfg. Co., Inc., 17 Rockwood St., Rochester 10, N. Y.**

# ROCHESTER
## *Criterion* GAUGES

## Orders Affecting Stove Industry Are Reviewed

A booklet has been issued by The Institute of Cooking and Heating Appliance Manufacturers, with offices in the Shoreham hotel, Washington, D. C., which will be of interest to all who are concerned with supplying essential stoves for both military and civilian users.

It is entitled, "The Government and the Stove Industry" and tells an amazing story of a series of orders, regulations, restrictions, amendments and interpretations which have influenced stove production to the point where critical shortages of several types of stove products have developed. The purpose in distributing this memorandum, according to the Institute, is to point out the serious need for a well-coordinated future program in which all government agencies responsible for stove production, pricing and rationing, will work together in harmony with the industry to promote the war effort and the civilian welfare.

◆ ◆

## Stove Rationing Order Became Effective Aug. 24

Stove purchase certificates formerly issued and usually valid from 30 days from issuance date became invalid August 23. This coincides with the time that a new nation-wide stove rationing plan went into effect Aug. 24.

New certificates will be distributed to War Price and Rationing Boards. After Aug. 23, buyers of most domestic stoves will have to give up a new certificate on OPA form R-901 (except purchases on priority orders). The amendment became effective Aug. 4 and is known as Ration Order 9.

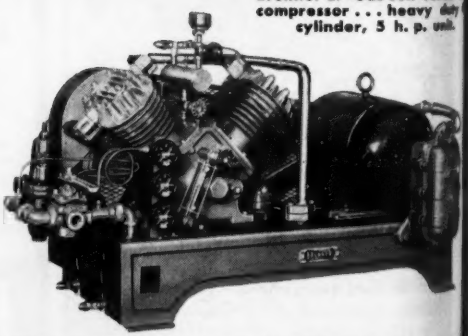

# How to cut LP-Gas losses

## 500 to 1000 lbs. PER TANK CAR

**BRUNNER**

**LP-Gas unit speeds up tank car unloading and reduces gas loss**

Because LP-Gas is a housing necessity in many defense areas, handling equipment that will be made available must be dependable. Brunner LP-Gas self-contained compressor units are a self-liquidating investment that pay for themselves from savings in gas recovered from tank cars unloaded. Brunner units conserve man-power by reducing the time required to unload tank cars. Safe, efficient and economical, Brunner is the answer to liquid petroleum gas handling problems. Brunner Manufacturing Co., Utica, N. Y., U. S. A.



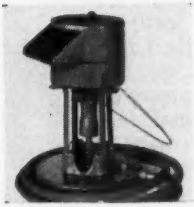
Brunner LP-Gas self-contain... compressor . . . heavy duty... cylinder, 5 h. p. unit.

ARMY E NAVY BRUNNER

**Write for FREE Booklet**

The new booklet describes the Brunner LP-Gas Unit, contains illustrations, diagrams and other pertinent facts on handling

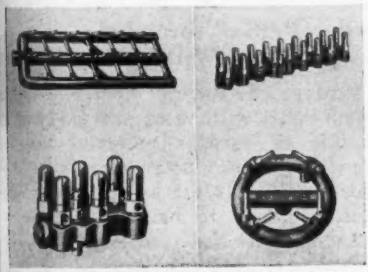
## Mutual Streamline Tinner's Furnace No. 3 A



This unit will accommodate the large soldering irons. Gives heat direct under heel of copper. Opening in top of furnace designed for lead melting pot. Unit can be used with any type of LP Gas cylinder, for field or shop.

**Mutual Liquid Gas Co.**

3805 W. Imperial Hwy. Inglewood, Calif.



## BARBER

### Appliance Burners

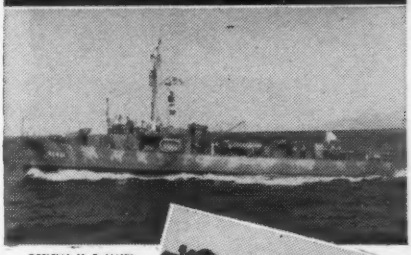
We make many types of Burner Units to fit a wide range of gas appliances. Nearly 200 appliance makers use Barber Burners. All Barber units correctly designed and equipped with proper jets to suit the appliance. Barber is the ONE burner which assures complete combustion on Butane-Propane or ANY OTHER gas. Appliance builders and fuel distributors give their customers better service, more economy, by advising the use of Barber-equipped appliances. Submit your burner problems to us. Complete new Catalog on request.

**THE BARBER GAS BURNER CO.**

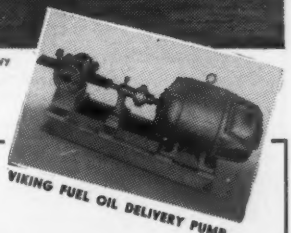
3704 Superior Ave. Cleveland, Ohio

## NAVY'S "WATCHDOG"

*...Hunts Axis Submarines To Their Graves!*



OFFICIAL U. S. NAVY PHOTOGRAPH



VIKING FUEL OIL DELIVERY PUMP

Another of Viking's War-time jobs is building fuel oil transfer pumps, as pictured here, for use on the U. S. Navy's fast, hard-hitting sub-chasers . . . one of Uncle Sam's best pieces of insurance against Axis submarines.

The unit consists of a direct-connected Viking Rotary Pump constructed of marine bronze and powered through a flexible coupling to an electric motor, all mounted on a structural steel base. This unit is also furnished for lube oil transfer, in which case it is back-geared to the motor for reduced pumping speed.

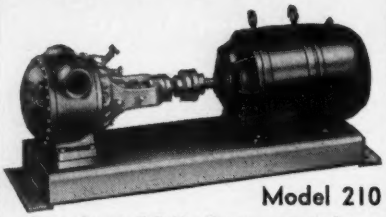
Viking appreciates the patriotism and patience of valued civilian customers who are unable to get Viking Rotary Pumps at all . . . or who get them only after considerable delay. We're all agreed that the U. S. Navy, which is doing such a whale of a job to win the War on the seven seas, comes first today. The sooner our sub-chasers blast the Axis "pig boats" out of the way, the sooner will final Victory permit our Fighting Yanks to come back home.

★

**VIKING PUMP COMPANY**

CEDAR FALLS, IOWA

SMITH PUMPS



Model 210

Capacity 50 G.P.M. direct connected to 3 H.P. Explosion Proof Motor

SMITH BUTANE PROPANE PUMPS

Especially Designed for LPG Service

Their balanced gear construction reduces internal wear. Fluid sealed packing box makes hazardous gas leaks impossible.

Prompt Delivery

*Order Model 211 for truck mounting.*

SMITH *Precision Products* COMPANY

1135 MISSION ST. · SOUTH PASADENA, CALIF.

*For Safety and Economy*

ETHYL MERCAPTAN

——*Purified*——

The ACCEPTED standard odorant for liquefied petroleum gases.

MALLINCKRODT CHEMICAL WORKS

ST. LOUIS NEW YORK

## D. D. Foster Is Sales Head At Pittsburgh Equitable Meter

Announcement has been made by Maj. A. E. Higgins, vice president of the Pittsburgh Equitable Meter Co., who is in active service in the army air corps, of the appointment of Donald D. Foster as assistant sales manager.

D. D. FOSTER

Mr. Foster formerly was district manager for Pittsburgh territory. In his new capacity he will be acting head of the sales divisions for both the parent concern and subsidiary, the Merco Nordstrom Valve Co. He is a native of Pittsburgh and a graduate of Carnegie Institute of Technology.

◆ ◆

## Order P-98-c Amended To Conform With Other Orders

Preference Rating Order P-98-c, which deals with sales and exchanges of idle or surplus material among operators in the petroleum industry, was amended July 9 by the War Production Board to bring it into conformance with the new Materials Redistribution Program No. 2, announced simultaneously by the Petroleum Administration for War.

The amended order also authorizes the Petroleum Administration for War to issue in its own name additional restrictions or limitations on the use of priorities assistance by petroleum operators. This provision will aid the PAW in carrying out the administrative responsibilities delegated to that agency by the War Production Board.

## Who is eligible to buy "VICTORY" COFFEE URNS?

Your customers can obtain "Victory" Coffee Urns if they come under one of the following classifications:

"VICTORY" URNS are fabricated from high grade enameling iron and finished in gleaming porcelain enamel. Urns and batteries available in various sizes and types. *Send for illustrated folder.*

**1. Army, Navy and U. S. Maritime Commission agencies furnishing proper preference rating.**

**2. Industrial cafeterias in war plants, hospitals and institutions serving the public welfare, and schools training men for the armed forces.**

**3. Restaurants, hotels, cafeterias and other commercial food service establishments who need the equipment to serve war workers or otherwise support the war effort.**

Send for our **PRIORITY INFORMATION KIT** Includes: 1. Instruction sheet, 2. Specimen forms for your guidance, 3. Blank application forms, 4. Illustrated folder describing "VICTORY" Coffee Urns.

EST. 1889

S. BLICKMAN, INC.
Manufacturers of Food Service Equipment
2109 Gregory Ave. • WEEHAWKEN, N. J.

*A Name That Stands for Quality*

# McNAMAR

Tanks for most all L.P.G. requirements

•

**McNAMAR Boiler and Tank Co.**

Tulsa, Okla. Salem, Ill.

## NEED LOW-COST GAS-FIRED HEATERS?

THIS Peerless Gas-Fired Wall Heater is an ideal heating unit for war housing. Requires no floor space. No costly installation! Radiates heat and circulates it as well. Air insulated. Models have input capacities ranging from 8,000 to 20,000 BTU per hour. Available in wide variety of colors. Write today for complete details.

PEERLESS MANUFACTURING CORPORATION
*Incorporated*
LOUISVILLE, KY.

★
*Buy War Bonds*
★

## Army-Navy "E" Award Given To Bastian-Blessing Co.

For great accomplishment in the production of war equipment, the Army-Navy "E" Award has been conferred upon the men and women of the Chicago plant of The Bastian-Blessing Co. The formal ceremony was held on the spacious lawns of the company's modern new plant at 4201 Peterson Ave. on July 26.

Immense quantities of fuses for 75 mm. guns, parts for warplanes, valves for fire extinguishers, fliers' oxygen lines and life rafts, and other precision equipment have been turned out, on an "around-the-clock" schedule, by the Bastian-Blessing factory. For more than a year the facilities of this company, one of the country's largest manufacturers of equipment for controlling liquefied petroleum gas, cutting and welding apparatus, have been devoted entirely to war production.

Presentation of the award was made by Col. John Slezak, of the U. S. army, and accepted by Ellsworth L. Mills, vice-president.

Lt. Comdr. R. J. Twyman, U.S.N.R. presented the Army-Navy "E" pins and Lewis G. Blessing, president of the company, distributed the certificates of award and "E" pins to representatives of the various departments of factory and office.

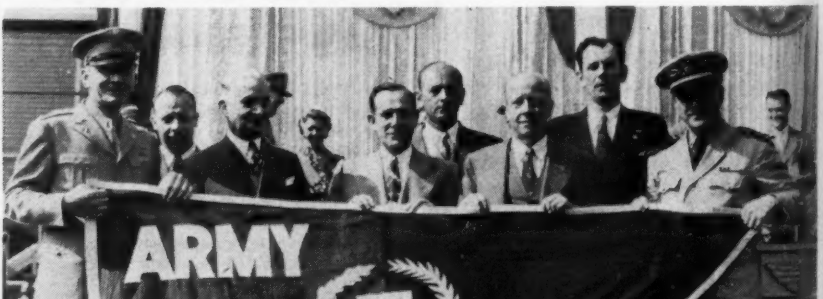
Jobs for their men now serving in the armed forces upon their return after Victory is won were pledged by the management during the presentation ceremonies.

◆ ◆

## Transfer of Workers Rule Applies to LP-Gas Producers

Producers of liquefied petroleum gases are included among those to whom is applied War Manpower Commission Regulation 4 (Amendment), which restricts transfer of workers.

References will be found in Paragraph 17 of Part 904 pertaining to "production of chemicals and allied products and essential derivatives thereof."




**At the ceremonies when The Bastian-Blessing Co., was awarded the Army-Navy "E."**

Order These Famous L. P. Gas Products From Us . . . .

REGO LAP GAS

The BASTIAN-BLESSING Co.

THE DAYTON-DOWD CO.

Hackney
BUTANE PROPANE CYLINDERS

L. C. RONEY INC.

The IMPERIAL BRASS MFG. CO.

GAS EQUIPMENT CO., INC.
2620 South Ervay Street, Dallas, Texas
GAS EQUIPMENT SUPPLY CO.

WAR HOUSING

LPG HEATERS

LPG Dealers find real profit in BRILLIANT FIRE sales because the product is time-tested, trustworthy. Geared for economy operation and negligible servicing. These popular heat-makers are offered in a variety of styles for every home need.

Write for Catalog

Brilliant Fire GAS HEATERS
THE OHIO FOUNDRY & MANUFACTURING CO.
QUALITY HEATING EQUIPMENT SINCE 1846
STEUBENVILLE, OHIO

SMITH METER BU-40
for Butane

Built for Its Job—
NOT an adaptation!

• **Smith Meter BU-40 is built for the job of metering Butane. This is not an adaptation of some other meter. *Sustained accuracy* is guaranteed. The Smith positive displacement Rotary Principle insures fast, steady flow and low head loss. Capacity: 50 g.p.m.; working pressure—up to 250 lbs. p.s.i.**

***Available for corrosive or non-corrosive service on priority.***

SMITH METER COMPANY
SUBSIDIARY OF A. O. SMITH CORPORATION
*Factories at Los Angeles and Milwaukee*

SALES OFFICES AT NEW YORK • CHICAGO • HOUSTON • LOS ANGELES

**Refineries and Plants**

For Recovery of
Isobutane
N-Butane
Propane

PARKHILL-WADE
CONSULTING AND
CONSTRUCTION ENGINEERS
1625 SOUTH ALAMEDA STREET
LOS ANGELES CALIFORNIA

*When our boys come marching home!*

**THEN** Industry Will Turn to Production of Plow Shares Instead of Swords.

WE WHO MANUFACTURE

METALBESTOS
GAS VENT & FLUE PIPE

Are Bending Every Effort to Production of War Products.

*We'll be seeing you!*

**WILLIAMS-WALLACE CO.**
SAN FRANCISCO

## Anchor Appoints Tom C. Shaw To Important Position

Officials of Anchor Petroleum Co., marketers and producers of butane and propane, Tulsa, announce the appointment of Tom C. Shaw in charge of developments and operations.

TOM C. SHAW

Anchor is also expanding its operations, has recently added to its fleet of tank cars and is adding to its office space in the Atlas building in Tulsa.

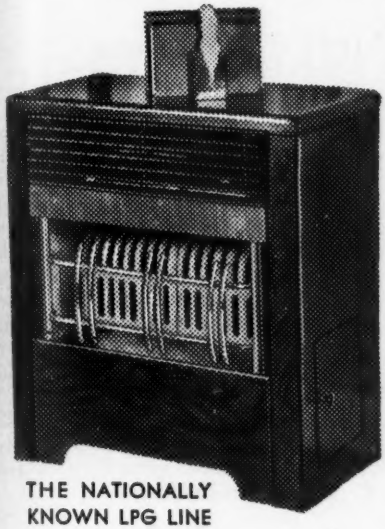
Mr. Shaw recently resigned his position with Standard Oil and Gas Co. to join Anchor. Before that, he was with Coronado Corp., producers and manufacturers, in Corpus Christi, Texas.

◆ ◆

## Fred Henninger With Navy In Stanford, Fla.

Fred Henninger, vice president of McNamar Boiler & Tank Co., Tulsa, Okla., has been located at the United States Naval Air Station at Stanford, Fla., since May 14. He is in the maintenance department and is devoting much of his time to developing comprehensive systems for repairs and work schedules, profiting from his past experiences in the LP-Gas field.

Mr. Henninger's family has joined him and they live in a country home which is surrounded by orange trees and boasts a six-acre lake. In a recent letter he says, "Am more than ever impressed with this big war job the navy is doing. One of these days when everything is set, all hell is going to break out in many places."



THE NATIONALLY KNOWN LPG LINE

# DEARBORN
## L. P. G. GAS HEATERS

- **AIR-COOLED CABINET**
  Patented Safety Feature.
- **HI-CROWN BURNER**
  An Engineering Triumph.
- **BLUE FLAME PILOT**
  Automatic Lighting Is Safer.
- **LUXURY FINISHES**
  Rival Finest Furniture.
- **A.G.A. APPROVED**
  The LPG Seal of Safety.

*Write for Catalog*

**DEARBORN STOVE CO.**
3256 MILWAUKEE AVE. • CHICAGO

# SPRAGUE METERS

*for*

PROPANE - BUTANE SERVICE

•

*Write for Particulars*

**SPRAGUE METER COMPANY**
Bridgeport, Conn.
Los Angeles, Calif.
San Francisco, Calif.

## ORDER NEW TANKS

# *NOW*

Transport units are being purchased. They are available where there is a real need and no other source of transportation is obtainable.

Superior fabricates all types. Transports, Storage, Cylindrical, Spherical.

*Superior Spheres carry larger pay loads.*

**SUPERIOR TANK & CONSTRUCTION CO.**
6155 So. Eastern Ave.
Los Angeles, Calif.
Phones: AN. 4157. Night: Whittier 413-407

# La Grande Town Plant Sold To California-Pacific Utilities

THE Natural Gas Co., of La Grande, Ore., operated since 1934 by the Wauge family, has been sold to the California-Pacific Utilities Co., of San Francisco, Mrs. Nettie M. Wauge has announced. She and her son, Merton Wauge, have operated the firm since 1941, when Martin E. Wauge, her husband, died.

The last billing under the old ownership took place June 15. California-Pacific Utilities assumes charge of the firm from that date.

The system at La Grande was installed in 1931 and serves 1000 Btu. butane-air gas to approximately 375 residential and commercial consumers. The plant consists of two 13,500-gal. butane storage tanks and two 5000 cu. ft. per hour Gasair vaporizers and mixers and the necessary auxiliary equipment. Gas is distributed at 2½ lbs. pressure through welded steel distribution mains.

California-Pacific Utilities, headed by J. A. Ward, in addition to this plant, distributes butane-air gas at heat values varying from 880 to 1100 Btu. to approximately 3900 consumers in Roseburg, Grants Pass, Medford, Ashland and Klamath Falls, Oregon, and Needles, Calif. In addition to these plants they own storage and mixing plants at Yuma, Ariz., Chehalis, Wash., and Boise, Idaho. At these plants they make and sell 1000 Btu. butane-air gas at wholesale to the local utilities, who distribute gas to approximately 3500 retail consumers through underground distribution mains.

All of these last named installations were made by the Gasair Corp., of San Francisco, according to John K. Hellar, president.

◆ ◆

## Tappan Store Co. Issues "Owners Guide" Book for Users

An unusually instructive booklet has been issued by the Tappan Stove Co., of Mansfield, Ohio, for the use of range owners. It covers the subjects of pilot and burner adjustments, air mixture, care of ranges, kinds of gases and innumerable hints on cooking, baking, roasting and other range operations.

Directed to the home users of ranges, it serves a special purpose during this time when dealer service is often difficult to provide.

Many dealers are using the booklets in conjunction with their newspaper ads to bring Tappan owners into their stores and retaining good will until such time as selling and servicing of gas ranges may again be resumed.

A special section of the book is devoted to liquefied petroleum gas burner adjustments.


**TANKS**

*In the Pacific Northwest*

See

**King Bros., Inc.**

**For Your Tank and Cylinder Requirements**

3500 S. E. 17th Ave., Portland, Ore.

*For*

# "AFCO" Tanks

*Write the*

**ARKANSAS FOUNDRY CO.**
**IRON & STEEL**

*Manufacturers of* ASME U-69
*Underground Storage Tanks*
*for Butane*

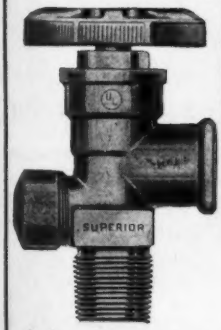
**Arkansas Foundry Company**

1501 EAST SIXTH STREET
LITTLE ROCK, ARKANSAS

Phones

LD 66 Local 8231

**Superior LP-GAS**
**CYLINDER VALVES**



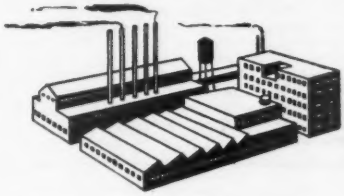

Listed as Standard and for Re-examination Service By Underwriters' Laboratories

★

**Write for Bulletin LP-8**
**For details on cylinder valves; and valves and accessories for bulk stations; above and below ground installations.**

SUPERIOR VALVE & FITTINGS CO
1509 WEST LIBERTY AVENUE
PITTSBURGH, PENNSYLVANIA

**The Flame of the Forge**



The quickened tempo of Western production has brought a bright opportunity to prove the usefulness of liquefied gases in many fields. Standard of California has met the challenge by helping to find new uses for them, by maintaining carefully determined standards of quality, by utilizing its extensive distribution facilities to make liquefied petroleum gases readily available.

Today's Standard L.P.G. service is streamlined to feed the flame in the war forges — but it's aimed to increase the stature of the entire industry in a peaceful tomorrow.

**BU-GAS**
Reg. U. S. Pat Off.
For Automotive and Industrial Use

**FLAMO**
Reg. U. S. Pat. Off.
For Homes Beyond the Gas Mains

**CALOL**
**INDUSTRIAL GAS No. 1**
Reg. U. S. Pat. Off.
For Gas Manufacturing Companies

**PRO-GAS**
Reg. U. S. Pat. Off.
For Industrial Heating and Commercial Purposes

STANDARD OIL COMPANY
OF CALIFORNIA

# CLASSIFIED

**Classified advertising is set in 6-point type, without border or display, at the rate of 10 cents per word per insertion; minimum charge per insertion $2. Box numbers for replies count as 5 words. Count as a word each one letter word and each group of figures. Classified advertising is only accepted when payment accompanies order. Copy and payment must reach publisher's office prior to 10th of month preceding publication.**

## EQUIPMENT FOR SALE

WORTHINGTON ROTARY PUMP—Size 15A —No. 110970. General Electric Induction Motor, Model No. 5K254A18—Volts 220/441. 60 Cycles. Frame No. 254 Type K. Speed Full Load 865. No. MG. 2 Horse Power.

1—Neilan regulator—1½" made by Neilan-Shumacher Co., Catalogue No. 15, Serial No. 17784, shows an inlet pressure of 2 lbs. and an outlet of ½ lb.—intake 20 lbs. and up—out ½ to 2 lbs. They are flanged in connections.

1—Neilan regulator—1½" made by Neilan-Smith Co., Catalogue No. 15, Serial No. 17782, inlet 100 lbs. and up—½ to 2 lbs. outlet, flanged in connection.

1—Neilan regulator—3" made by Neilan-Shumacher Co., Catalogue No. 15, Serial No. 17786, inlet pressure 150 lbs.—outlet 0 to 20 lbs.

1—Butterfly valve Cutler Hammer—No. A-508-538, size 3" screw connections, motor operated. Motor No. 809-H-4C—110 volts—60 cycles—Make Cutler Hammer.

1—Mercoid No. 72-A, single pole, single circuit, low level liquid control with 3-AMP tube cut in high—full automatic 150 lbs. max. press. For use on butane liquid F-2677.

MAYFIELD GAS CO., National Stock Yards, Saint Clair County, Illinois

1—FIG. 121-W, SIZE "D" 2" MODEL 600 Harmon Rotary Station Pump unit.

1—Harmon 2" by-pass for above pump.

1—Harmon base for above.

1—Model C 1½" Butane truck pump complete with by-pass.

1—3 H.P., 220 volt, 3 phase, A.C. explosion-proof motor.

1—Explosion proof switch for above motor.

1—Steel base for above motor.

All of the above equipment is guaranteed to be in excellent operating condition. Has all been completely reconditioned recently and is not in use.

ENGLISH BUTANE CORPORATION
P. O. Box 1669 Tucson, Ariz.

## BUSINESS OPPORTUNITY—OFFERED

EQUITY IN CITY GAS SYSTEM, 25 YEAR franchise. Butane gas distributorship. 3 late model Chevrolet trucks; 2 equipped with semi-trailer butane shells; 1 body mounted shell. All 125 lb. W.P. 1143 gal., 2408 gal., 3016 gal. net. Fully equipped with pumps. First class condition. Doing 400,000 gal. volume each year. A real business opportunity, located in New Mexico. Price $18,000.00. Reply Box 150, Butane-Propane News, 1709 W. 8th St., Los Angeles 14, Calif.

## BUSINESS OPPORTUNITY—WANTED

SUCCESSFUL LP-GAS OPERATOR WITH engineering and organization background, distributing half a million gallons yearly, with excellent refinery connections, wishes to purchase substantial interest in established business in eastern area with view of increasing effectiveness of operations through consolidation. Will consider outright purchase. Please give complete details. Box 160, Butane-Propane News, 1709 W. 8th St., Los Angeles 14, Calif.

INTERESTED IN PURCHASING BOTTLE or butane gas business, Colorado, Arizona or Northern New Mexico. Box 170, Butane-Propane News, 1709 W. 8th St., Los Angeles 14, Calif.


**HOT Water**
**UNITED STATES**
*Automatic Water Heaters*
Approved by A.G.A. for Liquefied Petroleum Gas
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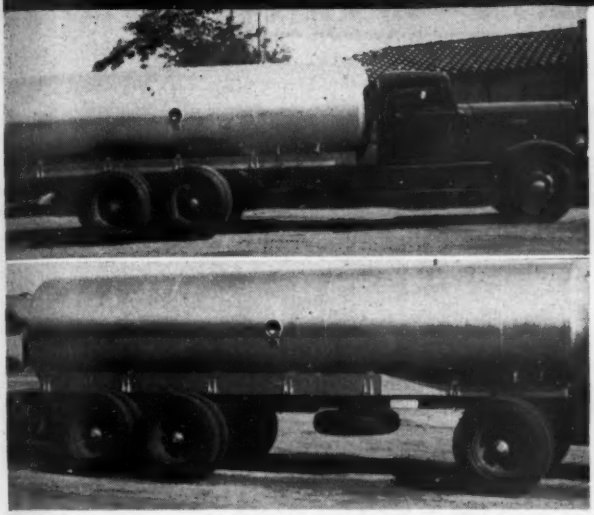

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Barber Gas Burner Co., The..... 69
Bastian-Blessing Co., The.....40, 41
Blickman, Inc., S..... 71
Brunner Manufacturing Co..... 68
Bryant Heater Co..... 10

Caloric Gas Stove Works..... 35
Carter Oil Co., The..... 63
Commercial Shearing & Stamping Co., The ..... 79

Dallas Tank & Welding Co., Inc..... 45
Dearborn Stove Co..... 75
Downingtown Iron Works..... 63

Electric & Carburetor Engrg. Co..... 78
Ensign Carburetor Co., Ltd..... 56

Fisher Governor Co.....6, 7

Gas Equipment Co., Inc..... 73
Gas Equipment Supply Co..... 73
General Controls ..... 79
General Gas Light Co..... 65
Grand Ranges, Division of Cleveland Co-Operative Stove Co. .....Front Cover

HANDBOOK BUTANE-PROPANE GASES ..... —

King Bros., Inc..... 76

Lindemann, A. J., & Hoverson Co... 52

Mallinckrodt Chemical Works..... 70
McNamar Boiler & Tank Co..... 71
Merco Nordstrom Valve Co..... 1
Mutual Liquid Gas Co..... 69

Neptune Meter Co..... —

Ohio Foundry & Manufacturing Co., The ..... 73

Parkhill-Wade ..... 74
Payne Furnace & Supply Co., Inc... 32
Peerless Manufacturing Corp..... 71
Pittsburgh Equitable Meter Co..... 1
Pressed Steel Tank Co.....Second Cover

Radiator Specialty Co..... 62
Ransome Co. ..... 55
Reznor Manufacturing Co..... 65
Robertshaw Thermostat Co..... 51
Rochester Manufacturing Co., Inc... 67
Roney, Inc., L. C..... 67
Roper Corp., Geo. D..... 39

Scaife Co. .....Third Cover
Servel, Inc. (Servel Electrolux)..... 43
Sinclair Prairie Oil Co..... 66
Smith Meter Co..... 73
Smith Precision Products Co..... 70
Sprague Meter Co..... 75
Standard Oil Co. of California..... 77
Superior Tank & Construction Co... 75
Superior Valve & Fittings Co..... 77

Tappan Stove Co..... 49
Thomas Truck and Caster Co..... 67
Tokheim Oil & Tank Pump Co. .....Fourth Cover

United States Heater Co..... 78

Viking Pump Co..... 69

Warren Petroleum Corp..... 37
WBP Gas Flow Calculator..... 61
Williams-Wallace Co. ..... 74

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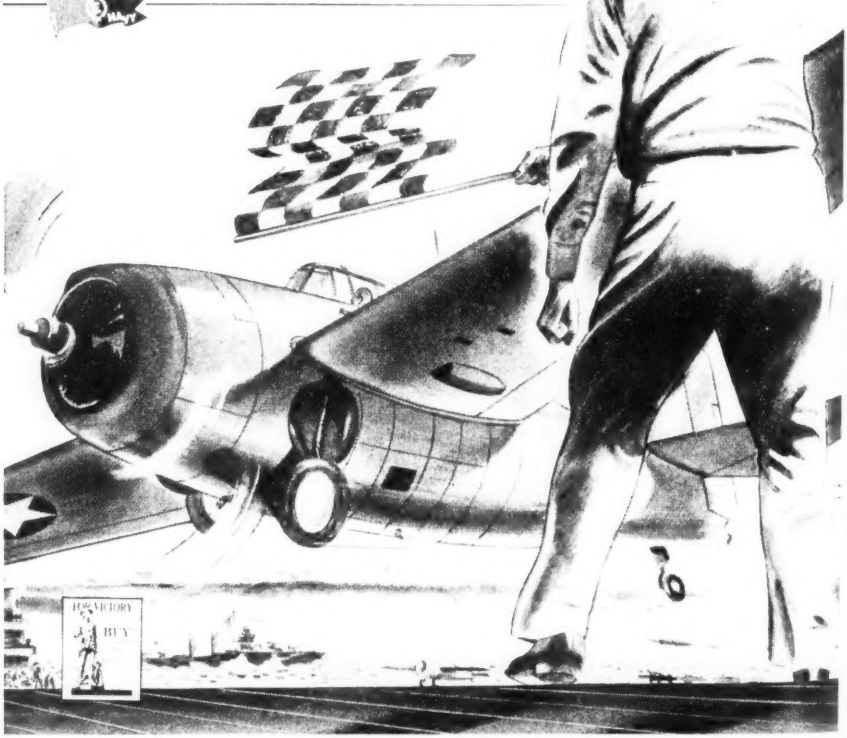
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